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ABSTRACT

An instructor's manual and six instructional modules are provided for a workshop to motivate and train K-12 teachers to incorporate occupational information into their curricula. Contents of the manual include an overview of the competency-based training package with brief descriptions of the modules (concepts and teaching competencies addressed, the instructional activities and content, and approximate time lines for instruction), information on how to plan a workshop, and helpful hints and techniques for group leadership. A competency opinionnaire is appended. Module titles are (1) Basic Principles of Career Development, (2) How to Develop Infused Activities, (3) The Occupational Outlook Handbook and Occupational Information, (4) Understanding the Labor Market, (5) Understanding the Economy, and (6) Exploring Careers. Each module is designed with a similar format. An introductory page presents the module's purpose and the key concepts and teacher competencies it addresses. The instructional content is presented in two or three learning experiences. An overview sheet for each learning experience identifies the key concepts, competencies, and objectives covered and presents pertinent instructor information (instructional time, resources, and instructional methods). An instructor's outline provides detailed information. Masters for suggested worksheets, handouts, and transparences follow. Modules 4-6 include abstracts of related teaching activities. Suggested evaluation instruments and techniques as well as reference lists conclude each module. (YLB)

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Special Publication Series No. 39

# CAREER INFORMATION IN THE CLASSROOM: WORKSHOP GUIDE FOR INFUSING THE *OCCUPATIONAL OUTLOOK HANDBOOK*

**Karen Kimmel Boyle**
**The National Center for Research**
**in Vocational Education**

**Ernest Whelden**
**New York State Education Department**

**The National Center for Research in Vocational Education**
**The Ohio State University**
**1960 Kenny Road**
**Columbus, Ohio 43210**

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For further information contact:

Program Information Office
National Center for Research
in Vocational Education
The Ohio State University
1960 Kenny Road
Columbus, Ohio 43210

Telephone: (614) 486-3655 or (800) 848-4815
Cable: CTVOCEDOSU/Columbus, Ohio
Telex: 8104821894

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## PREFACE

The need to help individuals make informed career decisions is a critical and continuing one. One means of addressing this need in a practical and lasting way is through our nation's educational institutions, by providing them with methods of using readily accessible and current career information resources.

Prompted by the Career Education Incentive Act (P.L. 95-207), the National Occupational Information Coordinating Committee (NOICC), the Department of Education and the Bureau of Labor Statistics initiated a project focused on preparing teachers to infuse career information into the classroom.

The *Occupational Outlook Handbook* (OOH) is commonly available in schools and colleges, and it is updated regularly—two of many features that make it an ideal principal career information resource. However, like a dictionary, encyclopedia or other reference book, the OOH requires some skill and knowledge if it is to be used effectively. Learning the concepts needed to understand the information in the OOH takes a certain amount of effort—and, in return, provides both knowledge and a resource that can be used throughout a lifetime. For these reasons alone, it made sense to help teachers with the critical task of infusing these concepts into their course curriculum.

The New York State Occupational Information Coordinating Committee's "National Career Education Infusion Project" was selected from proposals submitted by more than twenty states to develop materials to address this need. Now—after a year of intensive effort, involving numerous individuals, organizations, and institutions—this publication, *Career Information in the Classroom*, has been produced. Its usefulness will be examined during the second phase of this grant, a time for testing that should lead to improvements in the final edition. However, NOICC expects this workshop guide will prove to be a significant tool for advancing the use of occupational information by individuals making career decisions.

In addition to the following acknowledgements, NOICC also recognizes the important administrative contributions the New York SOICC and its director, Mr. Albert Ross, have made to the successful production of this document.

Russell B. Flanders
Executive Director
National Occupational Information
Coordinating Committee

# FOREWORD

The decade of the 1980s will be one of many changes in the structure of American society as our nation moves into the Computer Age, and many of the most dramatic changes are certain to take place in the world of work. *Career Information in the Classroom: Workshop Guide for Infusing the Occupational Outlook Handbook* will be a valuable tool for classroom teachers trying to help America's young citizens learn about these changes.

This publication provides teachers with both knowledge and practical resources for infusion into their curricula of concepts concerning the dynamics of the economy and the labor market as well as the actual development of one's career. This publication is unique in its scope; it contains suggestions for classroom teachers from kindergarten to twelfth grade and all subject areas. We believe that this material will have a positive influence on thousands of students.

The New York State Education Department, and the National Center for Research in Vocational Education are pleased to have been involved in the development of this material. We appreciate the efforts of the various staff members of our institutions and most especially thank the many classroom teachers who helped in this project.

Albert Ross, Director
New York State Occupational
Information Coordinating
Committee

Robert E. Taylor
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School District 15
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Maryland State Department of Education
Baltimore, Maryland

William Caston
Mississippi SOICC
Jackson, Mississippi

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District of Columbia Archdiocese
Washington, D.C.

Walter Gembica
Los Angeles County Superintendent of
Schools Office
Los Angeles, California

Norman Gysbers
University of Missouri
Columbia, Missouri

Esther Korin
Tappan Zee High School
Orangeburg, New York

Mary Kosier
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Newton, Kansas

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Department of Defense
Washington, D.C.

Elton Mendenhall
Nebraska Career Information Delivery System
Lincoln, Nebraska

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Washington, D.C.

Edwin Whitfield
San Diego County Department of Education
San Diego, California

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Florence Sutler, Division Director
Division of Occupational Education
Planning and Support Services

Barbara Shay, Bureau Chief
Bureau of Occupational Planning

Edward Lalor, Director
Division for Program Development

Gwendolyn Ripp
Bureau of Guidance

James McCann
Higher Education Services

Paul Collins
Bureau of Occupational Planning

Gregory Amrhein
Bureau of Occupational Planning

John Moesel
Bureau of Occupational Planning

Robert McCullin
Bureau of Guidance

John Soja
Bureau of Guidance

John Stebbins
Bureau of Guidance

Kenneth York
Bureau of Guidance

Sammuel Corsi
Bureau of Federal Program Review

Shirley Sargeant
Bureau of Federal Program Review

John Dority
Bureau of Social Studies Instruction

Carol Fairly
Bureau of Health Instruction

Drew Mills
Bureau of Humanities Instruction

Toni Meyer
Bureau of Health Instruction

Sheila Schlawin
Bureau of English Instruction

Alberta Slegaitis
Bureau of Reading Instruction

Morton Spillinger
Bureau of Foreign Language Instruction

Elizabeth Closson
Education Programs and Studies

Robert Trombley
Education Programs and Studies

Whitrey Wilkes
Education Programs and Studies

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# INSTRUCTOR'S MANUAL

This manual is designed to help you motivate and teach others who are interested in incorporating occupational information into their curricula. It provides (1) an overview of the training package, (2) information on how to plan a workshop, and (3) helpful hints and techniques for leading groups.

## SECTION 1. OVERVIEW OF THE TRAINING PACKAGE

This competency-based training package instructs teachers of grades K-12 on how to infuse the use of the *Occupational Outlook Handbook* (*OOH*) and the concepts contained within it into their curricula. The package contains six instructional modules, which address concepts that relate to the *OOH* and to infusion: (1) Basic Principles of Career Development, (2) How to Develop Infused Activities, (3) The *Occupational Outlook Handbook* and Occupational Information, (4) Understanding the Labor Market, (5) Understanding the Economy, and (6) Exploring Careers. Each module is designed to stand alone; however, key concepts are intertwined throughout the package.

Each module is designed with a similar format. An introductory page presents the purpose of the module and the key concepts and teacher competencies it addresses. Learning experiences, which contain the instructional content of the module, teach towards the key concepts and related teacher competencies. An overview sheet for each learning experience identifies the key concepts, competencies, and objectives covered in the learning experience and presents pertinent instructor's information, such as instructional time, resources, and instructional methods. Within each learning experience an instructor's outline provides detailed information needed by the person(s) leading the training session. This information is displayed in a way that allows space for the instructor to write notes. Masters for suggested worksheets, handouts, and transparencies are provided at the end of the instructor's outline.

In modules IV-VI, abstracts of related teaching activities are included after the set of learning experiences; grade levels and subject areas are specified for these activities. Abstracts of additional resources are also presented as sources for the workshop participants and the instructor(s).

The evaluation section of the module provides suggested evaluation instruments and techniques. A pre-workshop and post-workshop competency opinionnaire is used by participants to record their perceptions of their own competence; a list of performance indicators helps the instructor determine whether participants have gained specific competencies after completing the learning experiences; and a workshop effectiveness questionnaire gathers information on the usefulness of workshop techniques. All evaluation procedures are optional.

The following are brief descriptions of the six modules, including the concepts and teacher competencies addressed in the module, the instructional activities and content, and approximate time lines for instruction.

### Module I—Basic Principles of Career Development

The concept addressed in this module is that career education concepts are derived from career development theory. The competencies to be achieved are that the teachers will be better able to—

1. describe how basic career development principles relate to an individual's career development and

2. present at least two career development concepts that relate to their curricula.

The first learning experience begins with a series of exercises designed to start participants thinking about career development and the concepts in the *Occupational Outlook Handbook*. At the completion of the exercises, the instructor highlights basic career development principles that are mentioned. Based upon the exercises and a summary presentation, participants relate the principles to their own career development through discussion. The instructor then discusses the fact that these principles, which are derived from theories, are the foundation for career education concepts.

The second learning experience, after presentation of a sample career development model, provides the participants with an opportunity to think about career development models and to brainstorm about how they could teach at least two career education concepts to their students. The instructor summarizes by stressing that career education concepts can be taught at any grade level and in any subject.

The instructional time for the module is two to four hours. The time spent on the first series of exercises in the first learning experience can range from one to two (or more) hours. The second learning experience may be completed in one hour.

### Module II—How to Develop Infused Activities

The concept addressed by this module is that infusion is a viable means of delivering life-related subject matter. The competencies to be achieved are that teachers will be better able to—

1. define the concept of infusing career development concepts, including its purpose and expected benefits;

2. demonstrate acceptance of the responsibility for infusing career development concepts into their curricula; and

3. demonstrate an understanding of the process used to develop infusion activities by developing a lesson plan.

The first learning experience helps participants think about the purposes, methods, and benefits of infusing career development theory into their curricula. In the first exercise, the participants mention how they currently incorporate career development principles into their teaching, and the instructor emphasizes the idea that career development concepts can be taught while teaching a specific academic subject. The participants discuss what *infusion* means and arrive at a definition, which is presented as the group's "working" definition. In an optional exercise, participants write slogans that best depict their definition of infusion. The last exercise, completion of a worksheet, is designed to determine whether the participants understand infusion.

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The second learning experience allows participants to internalize the idea of infusion. Through an initial discussion, the instructor highlights the importance of imparting information that includes career information. The group then identifies instructional modes they can use to impart career information. The last activities are a discussion of the fact that everyone (grades K-12) can systematically infuse career development concepts, and small group discussions about where career development concepts can be infused into specific grade levels and subject areas.

The third learning experience teaches participants a process for developing an infused activity. In the initial exercise, the instructor simulates teaching a noninfused lesson and then teaches the same lesson but infuses a career development concept. The instructor points out that infusion does not take time away from teaching of an academic concept and that it is not an add-on. With the use of transparencies and handouts, the instructor describes the process of developing an infused lesson. In small groups, the participants develop at least one infused lesson using the process previously presented.

The instructional time for the module is approximately three hours, with each learning experience being about an hour in length. Extension of discussion and activities could make it longer.

### Module III—The Occupational Outlook Handbook and Occupational Information

The key concepts of this module are that (1) the *Occupational Outlook Handbook* contains information that can be incorporated into the curriculum and (2) it is necessary for students to receive occupational information. The competencies to be achieved are that teachers will be better able to—

1. locate specific information within the *Occupational Outlook Handbook*;
2. list at least two reasons why it is important to incorporate occupational information into their curricula; and
3. give examples of how the information contained in the *Occupational Outlook Handbook* can be incorporated into their curricula.

The first learning experience makes participants better aware of the content of the *Occupational Outlook Handbook* and how it is organized. After a brief presentation on the background of the *OOH*, the instructor and participants review the major sections of the *OOH*. In the concluding exercise, the participants are asked to think of occupations that interest them and look them up in the *OOH*.

The second learning experience helps participants identify how they can better incorporate occupational information into their curricula. The first exercise is designed to make participants aware of the need for occupational information. On a "career line" they indicate points in time when they have made some type of career decision. The instructor stresses that if people start thinking about occupations as young children, then some form of occupational information should be presented as early as the primary grades. A discussion follows on the benefits of providing occupational information to students in grades K-12. Participants then work in small groups and identify information within the *Occupational Outlook Handbook* that they could use with their students.

The time needed to present the module is approximately two hours, one hour for each learning experience.

## Module IV—Understanding the Labor Market

The key concepts addressed by the module are the following:

1. The labor market is the interaction of people competing for jobs (occupations) and employers (industries) competing for workers. The job seekers and workers constitute the labor force. The supply of workers and the demand for workers affect each other.
2. An industry can be classified by the goods and/or services it produces.
3. An occupation can be classified by the major tasks a worker performs.
4. Although each industry has its own occupational composition, some occupations are found in many different industries.
5. Despite the importance of employment growth, most job openings result from replacement needs.

The competencies to be achieved in this module are that teachers will be better able to—

1. explain the idea of supply and demand as it relates to the labor market;
2. describe an activity that infuses into their curricula the concept of the labor market;
3. classify industries as providers of goods or services;
4. describe an activity that infuses an example of goods-producing or service industries;
5. classify occupations according to various classification systems;
6. describe an activity that infuses into their curricula occupational classification activities;
7. explain the concept of occupational transferability;
8. describe an activity that infuses the idea that many occupations can be found in different industries;
9. provide examples of industries that have job openings due to (a) employment growth and (b) replacement needs; and
10. describe an activity that infuses reasons for a favorable outlook of an occupation.

The first learning experience explains the dynamics of the labor market. After a discussion of what constitutes employed, unemployed, underemployed, and discouraged workers, participants take part in a role-playing activity in which they classify workers. The instructor then discusses how the supply of and demand for workers is generated. Final discussion for this learning experience relates to the impact of wages on worker supply. An associated activity is the completion of a chart showing hypothetical wage scales. As culminating activities for this learning experience (as for all of the learning experiences in this module), participants identify where the key concepts presented in the learning experience are discussed in the *OOH* and then develop lesson plans that show how the key concepts can be infused into their curricula.

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The second learning experience addresses how industries and occupations are classified and the idea that many occupations are present in more than one industry. The first activity is a discussion of the ways industries can be classified. Participants then complete a worksheet that asks them to indicate whether specific industries are goods-producing or service-producing industries. The next activities relate to classification of occupations. After a discussion of how occupations are classified, participants classify various occupations. The transferability of some occupations from one industry to another then is highlighted. Through various activities, participants identify occupations that can be found in more than one industry.

The culminating activities involve finding references to the key concepts in the *OOH* and developing a lesson plan.

The focus of the third learning experience is to determine how job openings occur. The instructor and participants discuss and provide examples of how job openings can result from growth in an industry and occupational transfers and labor force separations of current workers. Participants complete a worksheet on turnover rates.

Besides the culminating activities similar to those in the other learning experiences, there is an optional knowledge quiz that covers information from the entire module.

The instructional time for the module is four hours. The first two learning experiences each take approximately one and one-half hours to complete and the last learning experience is designed to take place in one hour.

## Module V—Understanding the Economy

The key concepts addressed by the module are the following:

1. A community's local economic condition is determined by the nature of its population, climate, geographic location, resources, and mix of industries.
2. The nation's economic condition is constantly changing because of decisions made by businesses, consumers, and governments. Factors that affect national and local economies include changing technologies, business conditions, population patterns, consumer preferences, and availability of resources.
3. Technological change affects the job security of workers and the skills required of workers. Real wages increase as productivity increases.

The competencies to be achieved in this module are that teachers will be better able to—

1. explain how characteristics of a community can affect its economic conditions;
2. describe an activity that infuses into their curricula the idea that local economic conditions are influenced by the characteristics of the community;
3. explain how decisions made by and factors related to businesses, consumers, and governments affect the nation's economic condition;

4. describe an activity that infuses into their curricula the idea that economic changes relate to decisions and factors associated with various groups;

5. provide examples of how technological changes affect the job security of workers and the skills of workers; and

6. describe an activity that infuses into their curricula the idea that technological changes affect the job security and skills of workers.

The local economy is the focus of the first learning experience. The instructor discusses how an area's population, geographic location, and mix of industries affect the local economy. Participants provide examples and complete various worksheets associated with each of these factors. As culminating activities for this learning experience (as for all of the learning experiences in this module), participants identify where the key concept presented in the learning experience is discussed in the *OOH* and then develop lesson plans that show how the key concept can be infused into their curricula.

The second learning experience explores how businesses, consumers, and governments influence the national economy. The group discusses each influence, provides examples, and completes related worksheets. Other impacts on the economy, such as changing technology, business conditions, population patterns, and natural resources, also are discussed. The culminating activities of finding references to the key concept in the *OOH* and developing a lesson plan complete the learning experience.

The third learning experience explores the implications of changing technology on workers and the economy. After a presentation on the effect of changing technology on job security, worker skills, and productivity, participants debate the pros and cons of automation as it relates to productivity, real wages, worker safety, job satisfaction, and educational requirements. Another activity is a role-play game in which participants react to various economic conditions. Besides the culminating activities similar to those in the other learning experiences, there is an optional knowledge quiz that covers information from the entire module.

The instructional time for the module is five and one-half hours—one and one-half hours for the first and two hours each for the second and third.

### Module VI—Exploring Careers

The key concepts addressed by the module are the following:

1. An understanding of personal attributes, including interests, abilities, work values, training, and experience is important in occupational choice.

2. An understanding of occupational characteristics, including the nature of the work, job outlook, earnings, working conditions, required training, other job qualifications, and advancement opportunities, is important in occupational choice.

The competencies to be achieved in this module are that teachers will be better able to—

1. explain how knowledge of personal attributes can improve occupational choice;
2. describe an activity that infuses into their curricula information on understanding personal attributes as they relate to occupational choice;
3. explain how knowledge of occupational characteristics can improve occupational choice; and
4. describe an activity that infuses into their curricula information on understanding occupational characteristics as they relate to occupational choice.

In the first learning experience, participants discuss how personal attributes relate to one's work. They then complete a worksheet regarding their personal interests/abilities. A discussion follows on personal work values and training and experience. Participants then complete a "career ladder" worksheet and participate in a role-play situation in which they identify occupations that fit specific personality profiles.

In the culminating activities for the learning experience, participants identify where the key concept presented in the learning experience is discussed in the *OOH* and then develop lesson plans that show how the key concept can be infused into their curricula.

The second learning experience addresses characteristics of specific occupations. Using the *OOH* as a reference, participants review the nature of the work, job outlook, working conditions, earnings, and training requirements of different occupations. They then develop a lesson plan that shows how the key concept can be infused into their curricula. An optional knowledge quiz can be the culminating activity for the module.

The instructional time for the module is approximately two and one-half hours. The first learning experience can be completed in approximately one and one-half hours and the second in one hour.

## SECTION 2. PLANNING THE WORKSHOP

The purpose of this section is to help you think through the training you will be doing. The suggested process helps you develop an organized and useful workshop.

### Assess Your Desired Outcomes

The first step is to determine what you, the instructor, want to have happen as a result of training. Considering such factors as time available and your skills, ask yourself what you desire the workshop outcomes to be. Some answers to that question might be as follows:

- To excite people about the concept of infusion
- To get people to recognize the importance of occupational information
- To teach the group the concepts in the *Occupational Outlook Handbook*
- To have the group develop lesson plans that involve the use of the *Occupational Outlook Handbook*

Once you have thought through your desired outcomes for the workshop, you are ready to assess the participants' needs.

### Assess Participants' Needs

The general process for assessing your workshop participants' needs and strengths consists of the following:

- Identify the competencies they should or could possess.
- Determine the competencies they already possess.
- Determine what you could provide in training.

Learn about the types of people attending your workshop. Are they teachers who should have all of the competencies presented in the training package? Or, are they counselors (or another group) who may not need to know how to develop and implement infused lessons? First, identify which of the competencies in this package the participants need to have addressed. If you are not familiar with the group, talk with a member of the group, a supervisor, or an administrator to learn a little more about them.

The next step is to assess the competencies the workshop participants currently have. You can use various tools to determine this. In Appendix A of this manual there is a self-report "Competency Opinionnaire" that asks participants to indicate how competent they are regarding each competency statement. Prior to the workshop, you can administer this form or portions of it to the workshop participants to obtain subjective data on current competence. Another technique is to interview workshop participants and their supervisors regarding the participants' competence in specific areas.

The final step will be to decide what you can realistically provide in training. You need to determine how many of the competency areas, in which participants have a need, you can address based upon the time available and the skills that you and other instructors have.

### Develop Workshop Goals and Objectives

Once you have decided what you want to see happen as a result of the workshop and have gathered information on what the participants' needs are, you are in the position to develop some goals for the workshop. For example, one of your desired outcomes may be to excite people about the concept of infusion. For you to accomplish this, participants may need to learn more about the process of developing an infused lesson plan. One of your workshop goals, therefore, might be the following:

- To teach participants an infusion process that is easy for them to adapt to their situation

Writing a number of such goals allows you to clarify in your mind the overall purpose of the workshop. The goals can serve as a guide for planning and can help you keep on track as you conduct the workshop. The workshop objectives help you measure how successful participants are in meeting the workshop goals. Each learning experience in the modules contains one or more performance objectives. Review the objectives to determine whether they are compatible with your workshop goals. If they are not, you may want to modify the existing performance objectives or write new ones.

### Select Training Content and Processes

Once your goals and objectives are set, you are ready to choose the content and training processes you will use. Most of the training content you need is contained in the training package. However, you will want to review the resource section of each module for additional materials that will enhance your training. Also, you may have personal resources that will add a lot to the training activities.

Many optional activities and visual aids (transparencies, handouts, and worksheets) are provided to give you a menu of ideas from which to select. It also is suggested that you consider involving local "experts" at certain points in the training. For example, a person from the local Job Service office might discuss employment trends in your area.

### Make Logistical Arrangements

Training logistics—dates, times, locations, equipment, and other details—are just as important to the success of your training as any sophisticated training design, dazzling methods, or dynamic instructors you decide to use. Begin coordinating your logistics early in your planning.

### Time

Since one of your goals is to help participants understand the concepts of the content material, consideration of time is extremely important. Besides the total time planned for the workshop, you will have to give thought to the following:

- Because there are so many concepts to cover, the workshop should be organized in blocks of time. Will these time blocks be consecutive or spread out over time?
- Quality of instruction should take preference over quantity. Which concepts will require the most detailed coverage?
- The larger the group, the more discussion and sharing that will take place, and consequently the less that can be covered. Consider the number that will participate.

### Facilities

In checking the facilities, you will want to give close attention to the room available for the workshop. Although this may seem like an obvious reminder, it is amazing how many workshops have slipped from excellent to mediocre simply because the room was inappropriate, or the air was too cool, or there was not a chalkboard. Items such as the following are important:

- **Room size:** Is the room large enough to accommodate anticipated numbers but not so large that you will feel you are teaching in a barn?
- **Its appropriateness for activities:** If you plan on group activities as well as small group work, can the chairs be moved? Is there space enough to move them around in such a way that groups can have relative privacy? Is there a chalkboard or flip chart?
- **Arrangement and lighting:** Can everyone see you from the various areas in the room? Is the lighting adequate?

### Materials

Besides the facility, you must check on available materials. Will you have enough paper and pencils for participants? If you are considering using activities other than those suggested in this package, have you considered the expense of producing them? If the room does not have a chalkboard or flip chart, can you secure a portable one?

## Prepare the Workshop Format

If you follow the above planning steps, you will find that you will be able to think through quite clearly what it is you want to accomplish in your workshop and the best methods to use. The next step will be to put all that thought and preparation into a plan that you can execute with confidence and a measure of pride.

In preparing your workshop format, you will want to consider the following:

- The sequence (from the opening remarks to the final evaluation)
- The right balance of activities (e.g., lecture, group work, activities)
- Resources to be used
- Estimated time to cover each concept
- Integration of your ideas in a training plan

**Sequence**

The modules are organized so that they can be used independently of each other. Therefore, if you plan to use more than one module at a time, you will need to determine how to make the transition from one to another and how to address evaluation concerns. For example, if you are using the pre-/post-workshop measure, will you administer it at the end of the workshop or at the end of each module?

**Balance of Activities**

When selecting the activities by which to teach the workshop content, you need to remember that people can concentrate for only so long on a particular concept. In selecting activities, put yourself in the place of the participant. Try to remember how tired you have gotten when someone has asked you to absorb more ideas than is comfortably possible in a particular block of time. To help you avoid overtaxing the energies of your participants, the following suggestions are offered:

- It is asking too much to cover more than four or five key concepts within a full day's activities.
- Plan a variety of individual work, lecture, and group participation. People need variety to learn effectively.
- Be certain that if you use minilectures they are clear and relatively short.
- Plan strong activities for slack periods of the day, i.e., midmorning, right after lunch, and the last hour of the day.
- Choose activities with the group's needs in mind, rather than choosing those you like. In this instance, you must be honest with yourself—just what *will* that teacher, counselor, or principal learn from doing a particular exercise?
- Allow for frequent periods of feedback and evaluation of what you are doing. This kind of participation leads to heightened interest. Prepare yourself sufficiently so that you can modify your plan based on group feedback and evaluation.

### Resources

Identify all of the resources you plan to use. As previously mentioned, the training package contains many transparency, handout, and worksheet masters. Select the ones that are most useful for your training situation. Also, abstracts of additional resources are presented in each module. Obtain copies of the ones that would help you and your workshop participants gain needed knowledge in specific areas.

Human resources are an important dimension to consider. You (the instructor) are the most important human resource. However, consider including others in the instruction. Possible "guest" instructors include individuals from (1) the state department of education, (2) a local intermediate agency, (3) the state department of labor, (4) state and local employment service offices, and (5) local businesses. Contact the appropriate individuals and have them conduct specific aspects of the workshop.

### Time Estimate

When you are planning the activities for the workshop, you need to make estimates of how long it will take you to cover each learning experience. Time estimates are provided for each learning experience. However, you should review them to be sure they are appropriate for your situation.

### Training Plan

It is useful to integrate your planning ideas and strategies into a plan that summarizes what you will do. There is no single or correct format for your plan. The figure on the next two pages presents one approach. After you review it, you may decide to adopt the format or to develop a different format.

## Evaluate the Workshop

It was suggested earlier that one way to encourage participation and to make certain that the participants are getting the most from the workshop is to allow for periodic feedback. Although you should decide beforehand upon some specific points at which you will ask for this feedback, you will nevertheless find that evaluation will occur at times without your requesting it. That is, the smiles, frowns, and questions of participants can tell you a great deal about how well you are motivating them and explaining the materials. The lists of evidence located in the evaluation section of each module provide suggestions on what to look for from the participants. At the end of the workshop, participants can evaluate the overall effectiveness of the workshop by completing the workshop effectiveness form found in each module.

## Conclusion

The above steps are designed to help you think through what you wish to provide for the participants in terms of knowledge and experiences. The next section includes some suggestions for group leadership.

# TRAINING PLAN

**Name(s) of Instructor(s)** ____________________

____________________

____________________

**(Tentative) Training Location** ____________________

**(Tentative) Training Dates** ____________________

**Description of Workshop Participants** ____________________

____________________

____________________

**Method(s) for Assessing Participants' Needs** ____________________

____________________

**Results of Participants' Needs Assessment** ____________________

____________________

____________________

**(Tentative) Goals for Training** ____________________

____________________

____________________

**(Tentative) Objectives of Training** ____________________

____________________

____________________

____________________

## TRAINING PLAN (continued)

| Objective | Associated Activities | Person(s) to Accomplish Activities | Time Line | Resources Needed | Comments |
|---|---|---|---|---|---|
|  |  |  |  |  |  |

## SECTION 3. SUGGESTIONS FOR GROUP LEADERSHIP

This section assumes that you have already had some experience in dealing with groups. The purpose is to summarize some of the principles of good leadership and to remind you of the methods traditionally used by effective leaders. Included also are some suggestions for handling critical situations and a brief review of selected training methods.

### Create a Desirable Environment

What makes a workshop session pleasurable as well as worthwhile? In answering that question for your workshop, you might begin by first asking yourself what kinds of workshops or similar group functions you have enjoyed. Quite likely they were the ones in which the group leader made you feel comfortable, eager to share your ideas, and confident that the experience would be a productive one. As the instructor, you will want to inspire similar feelings in your participants. There are no hard-and-fast rules, of course. However, although various factors must be considered—for example, your own particular style of presentation and of relating to others—there are some general rules that seem to apply in most cases.

#### Ensuring Group Cohesiveness and Participation

This will be one of your initial tasks, and one of your most important ones, if you are going to reduce anxiety, feelings of isolation, and even critical attitudes toward you, toward others in the group, and toward the material.

Ensuring active participation will be one of your major concerns throughout the workshop. Participants appreciate an instructor who encourages all to share their ideas. When one person is allowed to dominate the discussion, the others have a tendency to quit listening to what even the leader is saying. Preventing a few people from dominating the discussion means that you will have to be alert to the silent signals of the less vocal members of your group. You will have to be sensitive to body and facial movements that suggest an individual wishes to speak but lacks the courage for one reason or another.

At the same time, if you wish full participation, you will have to allow individual members to disagree with you without embarrassing them for it. Nothing turns off participants more quickly than an instructor's defensiveness when criticized, especially when the matters seem minor. If you know that something you have said may not be clear or seems irrelevant, acknowledge it.

Finally, you should be careful not to embarrass an individual for doing poorly on an activity or task. Turn what might seem to be a "dumb" example or statement into something useful. This allows the individual to retain dignity. The main thing to remember is that you should provide your participants with a safe environment for sharing.

#### Preparing the Group

Individuals will not pay close attention to content unless they know what they will be doing in the workshop and why. Once you have set a comfortable tone for the workshop and have allowed participants to get to know one another, provide them with the additional comfort that comes from knowing such things as workshop goals, format, and time schedule.

### Motivating the Group

Groups are sometimes very hard to motivate, but they do want to be motivated. Here again, setting the appropriate tone initially will help in your efforts to motivate them. Another device is to involve them immediately in some activity that makes the material relevant to their needs.

### Recognizing Individual Needs

You will find it much easier to motivate your participants and ensure their participation if you are careful to recognize their individual needs. How often have you suffered through a group situation in which the instructor seemed indifferent to your particular needs?

### Modifying Negative Feelings and Permitting Venting of Frustrations

You will have to be prepared from the start for misconceptions the participants may have concerning the training. Some of their expectations may seem absurd; some may result from simple misunderstanding. (Be sure that you have in your possession a copy of the letter that was sent out explaining the purpose and content of the workshop.)

Before attempting to introduce the content material, you will need to attend to the attitudes of those present. You might ask them to share with you and the others in the group their reasons for attending the workshop. This sharing will give you your first chance to deal in a nondefensive manner with their negative feelings and misconceptions.

During the workshop, eager and cooperative members might sometimes get frustrated if they do not understand a point. You should be sensitive to such clues as scowling, lack of participation, and angry comments. Periodic feedback sessions are also important.

Although you will want to acknowledge negative feelings and frustrations and attempt to deal with them as fairly as possible, there is always the possibility that some participants may have to be excused because their feelings of frustration cannot be resolved. It is asking too much of group leaders to expect them to dissolve hostility that may have been developing for some time.

## Prepare to Handle Critical Situations

Following are suggestions for handling ten specific situations that commonly arise in a workshop setting. Although you should not anticipate problems, you must be prepared to deal with them if they should occur. Such preparation will further ensure that your workshop will run smoothly and that the workshop environment will encourage participation and learning.

**The Reluctant Participant:** An individual lets you know that he/she did not desire to attend the training but was told to come.

Encourage the individual to stay, with the option of leaving after participating in a portion of the workshop.

**The Latecomer:** An individual has missed some of the preliminary explanation.

If you feel that your summarizing what has been covered will be wasted time for other participants, you might ask members of the group to review for the latecomer. This recitation will allow you to evaluate what participants have learned to that point.

**Specific Concerns:** Participants arrive with their own agendas or specific career development problems with which they want help.

Review again the purpose of your particular type of workshop. Explain that to the extent possible—in terms of the general relevance to everyone else—you will use their material or will address yourself to their particular problems in the process of the workshop. If they persist in wanting to devote the workshop time to their agendas, you may have to excuse these particular participants.

**Resistance to Infusion:** Although you have done your best to demonstrate the importance of infusion in group discussions, one or more participants display resistance through lack of participation or negative comments.

Resistance is a feeling and therefore cannot be dealt with solely on rational grounds. However, if you sense resistance, the first step is to acknowledge the resistance and to ask for clarification of feelings and for the reasons behind these feelings. Ask the individuals if past experiences have prompted the negative feelings. The point you must pursue is, Does such an experience negate the entire concept of infusing occupational information? If they feel it does, you might allow them a short brainstorming session on how the situation that caused the negative feelings could have been handled differently. Do not allow the session to turn into a digressive airing of pet peeves.

**The Particularly Vocal Critic:** An individual is particularly vocal in criticizing the concepts or proceedings, making others uneasy about sharing their ideas.

An effective way to handle the critic who is affecting the rest of the group's behavior is to take the role of the group in confronting the individual. You might say something like: "Your comments are making me a little defensive and I am getting nervous about choosing what to say next. Is there something that concerns you that I do not understand? Perhaps we should get to the critical issue that is bothering you before we continue." The individual may then reveal what is causing the behavior, allowing you to deal with the cause. Or she/he may suggest that nothing is the matter. In this instance, you may simply want to close the matter by admitting that perhaps your perception was wrong but that you felt you needed to deal with it before you could proceed. In either instance, the participant will have received feedback on the behavior.

**The Discussion Dominator:** A participant dominates discussions, frequently relating everything to a personal situation.

One way to handle this is to avoid looking in the participant's direction and deliberately to avoid calling on the individual for a period of time. If this device does not work, you might say something like, "I am particularly interested in getting as many thoughts on this topic as possible, and I want a chance to hear from everyone. I also don't want this phase of the program to dwell too specifically on personal situations. There will be opportunities to discuss these in the small group discussions, and I will be glad to help you at that time."

**Presence of an Authority Figure:** The presence of an authority figure (e.g., administrator) seems to be making others feel restricted in their freedom to share their ideas.

Sometimes individuals assume that they should restrict what they say in the presence of such an authority figure. If you sense that this situation exists, you might try two things: (1) Call on the authority figure frequently to express himself/herself so that the group can get a sense of the person's attitudes and feelings; (2) At an appropriate time, introduce the subject of the problems of communication in a group situation. Mention that sometimes there are barriers to communication because of the presence of a particular individual or individuals. Ask that "particular person" in your group if he/she believes that his/her position in the school will affect the freedom of the others to share their ideas. Then ask the other members of the group what happens to them in their school situation when they are in groups with authority figures present. Airing the topic may allow participants to relax. If not, you may have to continue with some silent participants. In that case, you will want to do more small group activities that will allow for a feeling of greater freedom.

**Sudden Behavior Changes:** After completing an activity, the group or certain members of the group seem less involved, or even angry, refusing to join in group discussion.

Occasionally, participants might become frustrated because they have lacked time to complete an activity or because they were confused about the directions. If there seems to be an unusual change in participant behavior, be certain to ask about it. That is, acknowledge that you sense something has happened to change the mood of the group, and ask if you have not given them enough time to complete the activity or have not made the directions clear. Use their responses to modify your approach to the next activity.

**The Distractors:** Several members have grouped together and are chatting and laughing during the presentations. They seem to be taking lightly what is going on.

One approach is to simply call attention to the disturbance in a casual fashion and then ask the individuals involved how they deal with these kinds of disturbances in their own work situations (i.e., as teachers, as counselors leading groups, or as a principal in a faculty meeting). You can then use their own techniques on them.

Another approach is to again take the role of the group by saying something like this: "I feel as though I am being left out of something that is going on. Would you be willing to share with me and the group? Your chatting is making it a little difficult for me to concentrate on what I am trying to do." You might ask them if there is a particular reason that they are not participating in what the rest of the group is doing. Although you do not want to embarrass anyone, your main concern is for the entire group. You may have to ask the distractors to go somewhere else to continue their conversation.

**Sitting on Their Hands:** You open a discussion with a question. The group is silent. One individual offers a comment, but the rest continue to sit in silence.

Frequently, when participants "sit on their hands," the question you asked was either too theoretical or irrelevant to their interests. The opening question should be one that everyone could answer in some way. If you get the feeling that you have started with a poor question, don't pursue it. Try another question that is concrete and relevant. If you still get a poor response, ask for feedback. Is the topic area irrelevant? Have you not made yourself clear about what is expected of them?

Keep in mind that the above suggestions are not offered as the only solutions to the handling of these and similar problems. They may be used simply as prompters for developing your own responses.

## Use a Variety of Training Methods

There are numerous activities you can use to present the training package content. The modules contain a wide variety of activities that you can use or modify to your style. The following activities are described to give you additional ideas:

### Brainstorming

In a brainstorming session, participants spontaneously express their thoughts about a specific problem. It is a let-yourself-go session that calls for ingenuity and creativity in seeking a solution to a problem. The guidelines are that (1) everyone is encouraged to contribute, (2) the process is fast, (3) no value judgments are placed on ideas, and (4) ideas are recorded on newsprint or chalkboard. After the initial phase of the brainstorming process is completed, the ideas are placed in priority order, and time is spent evaluating their potential for solving the problem at hand.

### Case Study

The case study provides a description (usually written) of a realistic situation that the workshop participants are encouraged to consider and for which they resolve problems as if they were personally involved.

### Demonstration

Demonstration is the procedure of doing something in the presence of workshop participants to show them how to do it themselves or to illustrate a point. The workshop leader should be sure that the demonstration meets a necessary instructional need. The effectiveness of this instructional technique depends on participants having a clear view of what is being presented.

### Group Discussion

There are two basic types of group discussion—structured and unstructured. Structured group discussions adhere to a topic or a problem that participants want to decide, solve, or conclude. This type of discussion is generally directed by the workshop leader. The leader needs to be sure the discussion does not get off the topic or become too time-consuming.

Unstructured discussion provides for informal group sessions that move freely and adjust to the expressed interests of participants. Discussions allow participants to share, develop, and refine ideas and attitudes.

### In-Basket

This technique is used to develop the decision-making skills that enhance participants' abilities to set priorities and carry out tasks. Workshop participants are asked to assume the roles and responsibilities of specific staff members. They are provided written information in memo form about a number of tasks that they must complete. Workshop participants must determine which tasks they would attend to and in what order.

### Minilecture

A minilecture is a brief presentation by the workshop leader that provides factual information and/or explanations. It is useful when introducing a topic or giving an overview.

### Role Playing

Role playing is an instructional technique in which workshop participants assume roles other than their own. During the workshop, specific situations are clearly described to workshop participants. Participants have the opportunity to express feelings and work out problems while experiencing other people's roles.

Objectives of a role-playing situation are to suggest alternative solutions to a problem, to gain an understanding of another's feelings, or to gain experience in handling new situations.

### Simulation

A simulation is a representation of significant or central features of reality that requires workshop participants to become actively involved in an experience rather than merely witness it. Simulation is a broad term and includes many techniques, such as in-basket, case study, and role playing.

### Symposium

A symposium consists of a group of brief presentations on various aspects of a particular issue or problem. Generally, after the prepared presentations, speakers participate in a panel discussion and/or answer questions raised by workshop participants.

## SOURCES

Altschuld, James W.; Axelrod, Valija; Kimmel, Karen S.; Drier, Harry N.; and Stein, Walter M. *Facilitator's Guide to Staff Development Training. Module IX: Staff Development.* Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1978.

Phillips, Linda L. *Guidance Program Improvement through Personnel Development. Trainer's Manual.* Columbus: The National Center for Research in Vocational Education, The Ohio State University, 1979.

Upton, Anne L.; Lourey, Bruce; Mitchell, Anita; Varenhorst, Barbara; and Benvenuti, Jeanne. *A Planning Model for Developing a Career Guidance Curriculum.* Fullerton: California Personnel and Guidance Association, 1978.

## COMPETENCY OPINIONNAIRE

**Directions:** For each statement that follows, assess your present competency. For each competency statement, circle one letter.

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### YOUR COMPETENCE

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Assess your present knowledge or skill in terms of this competency statement:

a. Exceptionally competent: My capabilities are developed sufficiently to teach this competency to other people.

b. Very competent: I possess most of the requirements but can't teach them to other people.

c. Minimally competent: I have few requirements for this competency.

d. Not competent: I cannot perform this competency.

| COMPETENCY STATEMENTS | COMPETENCE (circle one) | | | |
|---|---|---|---|---|
| 1. Describe how basic career development principles relate to an individual's career development. | a | b | c | d |
| 2. Present career development concepts that relate to your curriculum. | a | b | c | d |
| 3. Define the concept of infusing career development concepts including its purpose and expected benefits. | a | b | c | d |
| 4. Demonstrate acceptance of the responsibility for infusing career development concepts into their curriculum. | a | b | c | d |
| 5. Demonstrate an understanding of the process used to develop infusion activities by developing a lesson plan. | a | b | c | d |
| 6. Locate specific information within the *Occupational Outlook Handbook*. | a | b | c | d |
| 7. Identify reasons why it is important to incorporate occupational information into the curricula. | a | b | c | d |
| 8. Give examples of how the information contained in the *Occupational Outlook Handbook* can be incorporated into their curriculum. | a | b | c | d |

| COMPETENCY STATEMENTS | COMPETENCE (circle one) | | | |
|---|---|---|---|---|
| 9. Explain the idea of supply and demand as it relates to the labor market. | a | b | c | d |
| 10. Describe an activity that infuses into their curriculum the concept of the labor market. | a | b | c | d |
| 11. Classify industries as providers of goods and services. | a | b | c | d |
| 12. Describe an activity that infuses an example of goods-producing or service industries. | a | b | c | d |
| 13. Classify occupations according to various classification systems. | a | b | c | d |
| 14. Describe an activity that infuses into their curriculum occupational classification activities. | a | b | c | d |
| 15. Explain the concept of occupational transferability. | a | b | c | d |
| 16. Describe an activity that infuses the idea that many occupations can be found in different industries. | a | b | c | d |
| 17. Provide examples of industries that have job openings due to (a) employment growth and (b) replacement needs. | a | b | c | d |
| 18. Describe an activity that infuses reasons for a favorable outlook of an occupation. | a | b | c | d |
| 19. Explain how characteristics of a community can affect its economic conditions. | a | b | c | d |
| 20. Describe an activity that infuses into the curricula the idea that local economic conditions are influenced by the characteristics of the community. | a | b | c | d |
| 21. Explain how decisions made by and factors related to businesses, consumers, and government affect the nation's economic condition. | a | b | c | d |
| 22. Describe an activity that infuses into their curricula the idea that economic changes relate to decisions and factors associated with various groups. | a | b | c | d |
| 23. Provide examples of how technological changes affect the job security of workers and the skills of workers. | a | b | c | d |

| COMPETENCY STATEMENTS | COMPETENCE (circle one) | | | |
|---|---|---|---|---|
| 24. Describe an activity that infuses into the curricula the idea that technological changes affect the job security and skills of workers. | a | b | c | d |
| 25. Explain how knowledge of personal attributes can improve occupational choice. | a | b | c | d |
| 26. Describe an activity that infuses into their curricula information on understanding personal attributes as they relate to occupational choice. | a | b | c | d |
| 27. Explain how knowledge of occupational characteristics can improve occupational choice. | a | b | c | d |
| 28. Describe an activity that infuses into their curricula information on understanding occupational characteristics as they relate to occupational choice. | a | b | c | d |

## INTRODUCTION

The purpose of this module is to help teachers understand how career development concepts provide the theoretical basis for career education. In the first learning experience, workshop participants take part in various activities that highlight principles of career development. Specific career development concepts are stressed. The second learning experience is designed to help participants understand a career development model and how it applies to their curricular activities.

**CATEGORY:** Introductory

**KEY CONCEPT:** Concepts delivered through career education are derived from career development theory.

**COMPETENCIES:** After the completion of this module, workshop participants (teachers of various subjects) will be better able to—

1. describe how basic career development principles relate to an individual's career development, and
2. present career development concepts that relate to their curricula.

## LEARNING EXPERIENCE I

## CAREER DEVELOPMENT AND YOU

**KEY CONCEPT:** Concepts delivered through career education are derived from career development theories.

**COMPETENCY:** Workshop participants will be better able to describe how basic career development principles relate to an individual's career development.

**PERFORMANCE OBJECTIVE:** Workshop participants will list at least two career development concepts that relate to their career development.

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**OVERVIEW:** This learning experience is designed to provide participants with a general understanding of career development principles. Participants take part in a series of exercises that highlight specific career development principles; these principles then are discussed.

If you and/or the workshop participants need additional background on career development theories, you should review the handout on pages I-17 through I-37.

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**INSTRUCTOR'S INFORMATION:**

| | |
|---|---|
| Time | 60-90 minutes |
| Workshop Resources | **Handout Masters**<br>Work and Workers Quiz—page I-7<br>Vocational Interview Guidelines—page I-8<br>XYZ Choice—page I-9<br>Career Development Principles—page I-16<br>Career Development Theories—page I-17<br><br>**Transparency Master**<br>Career Line Example—page I-39 |
| Instructional Methods | Group activities<br>Individual activities<br>Large group presentation |

| Instructor's Outline | Notes |
|---|---|
| I. Introduction of Learning Experience | |
| A. Indicate that the purpose of the learning experience is to help participants develop a better understanding of some basic career development principles. | If appropriate, administer the pre-workshop portion of the "Competency Opinionnaire" found on page I-71. |
| B. Explain that numerous career development theories have been developed over the last fifty years, and that principles can be derived from the theories. | If you need additional information on theories, refer to the handout "Career Development Theories" on page I-17. |
| C. Indicate that it is not as important for teachers to know specific theories as it is for them to be familiar with the career development principles. | |
| D. Mention that the participants will be involved in a series of exercises that will help them personalize some career development principles. | |
| II. Work and Workers | |
| A. Ask participants (individually or in small groups) to complete the "Work and Workers Quiz." | Distribute "Work and Workers Quiz" found on page I-7. |
| B. Present the answers to the quiz.<br>1. 14 — 7. 53 — 13. F<br>2. 18 — 8. 15 — 14. T<br>3. 90 — 9. 25 — 15. T<br>4. 15 — 10. 20 — 16. T<br>5. 17 — 11. T — 17. T<br>6. 20 — 12. T | Indicate that these answers are approximate. Some of the answers have been rounded off to the nearest whole number. |
| C. Indicate that these facts and others about people and working have been translated into career development principles. Ask participants to think about what these principles may be as they continue with the next activity. | |

| Instructor's Outline | Notes |
|---|---|
| III. Vocational Interview | |
| A. Interview a workshop participant in terms of his or her job. (It would be interesting if you interviewed someone about a previous job not in the education field.) | Use questions in "Vocational Interview Guidelines" found on page I-8. You may want to arrange the interview prior to the start of the session. Ask questions in the past tense if referring to a previously held position. |
| B. Ask participants if they have arrived at any career development principles based upon the previous activities. | |
| C. Mention a few of the principles, such as the following: | |
| 1. Occupations have specific tasks. | |
| 2. Career choice is related to personality. | |
| 3. External forces influence career choice. | |
| IV. Decisions and Job Choice | |
| A. Indicate that decision making is an important step in the career development process. | |
| B. Conduct the "XYZ Choice" activity. | Use the exercise found on page I-9. |
| V. Relationship of Activities to Career Development Principles | |
| A. Ask participants to consider the activities just completed and to identify what they believe to be career development principles. | Write responses on chalkboard or large sheet of paper. |
| B. Indicate that career development theories relate to principles such as those included on the handout, "Career Development Principles." Discuss. | Distribute handout, "Career Development Principles," found on page I-16. |
| C. Mention that these principles can be grouped in different ways to form different theories. | If participants want to learn more about career development theories, provide them with the handout, "Career Development Theories" on page I-17. |

| Instructor's Outline | Notes |
|---|---|
| VI. Principles and You | |
| A. Discuss with participants the idea that many of the principles can be applied to their own career development. | |
| B. An additional activity is the career line. Have participants do the following: | Use this activity if you think the participants need another exercise to help them understand aspects of career development. |
| 1. Draw a line and divide it into five-year time segments (from birth to present). | Show transparency I.I.1—"Career Line Example"—on page I-39. Indicate that it is only partially completed and that different principles could be related to the decisions. |
| 2. For each major decision the participants have made in their lives, place a dot. | |
| 3. From the dots, draw a slanted line upward and write the decisions on the line. | |
| 4. Draw slanted lines downward and write the career development principles most related to the decisions. | If participants cannot relate all decisions to principles, that is okay. The purpose of the activity is to show the general relationship of principles and decisions. |
| C. Have participants discuss how some of the principles relate to their lives. You can start the discussion with, "Have other people influenced you in your career choice?" | |
| D. Mention that the career development principles form the basis for the career education content, and that the next learning experience addresses the teaching of these concepts. | |

HANDOUT

## WORK AND WORKERS QUIZ

1. Each individual, on an average, will move ________ times in a lifetime.

2. With shifting work patterns, there are now approximately ________ million "moonlighters" in America.

3. ________ percent of all the scientists who ever lived are alive today.

4. Human knowledge is doubling about every ________ years.

5. A study made at the Columbia Survey Research Center, in the late 1960s and early 1970s, showed that about ________ percent of students were on campus in an involuntary way.

6. ________ percent of American adults lack the knowledge and skills needed to function at a reasonably successful level in everyday life (i.e., to be able to address mail properly, make the most economical choice of variously priced foods, understand transportation schedules).

7. ________ percent of our two-parent families have both parents working outside the home.

8. Between a child's first birthday and his or her final day of public schooling, the child will have spent ________ percent of his or her nonsleeping hours in school.

9. The American economy has not been changing rapidly enough to require or to absorb the spectacular increase in the educational level of the work force. ________ percent of the new educated workers currently accept jobs previously performed by individuals with fewer credentials.

10. Most teenage Americans are nearly ________ months ahead in their physical development compared to what our senior citizens were when they were young fifty years ago.

### CIRCLE TRUE (T) OR FALSE (F)

11. Teenagers run a greater risk of personal violence in schools than on the street. T F

12. By 1970, there were more elementary school teachers in America than the total of all doctors, lawyers, and natural scientists. T F

13. Most workers are involved, in one way or another, in the production of goods. T F

14. For more than three decades, average real wages have moved upward in an unbroken record of annual gains. T F

15. Most of today's occupations and skills didn't exist a century ago. T F

16. Virtually every measure of workers' behavior indicates that money is still dearest to the hearts of most workers. T F

17. An average of 80 percent of American workers have expressed overall satisfaction with their work each year for the last twenty years, according to pollster George Gallup. T F

## VOCATIONAL INTERVIEW GUIDELINES

1. What do (did) you do all day? (What physical and mental tasks do [did] you perform?)

2. How do (did) you feel about what you do (did)? (What kinds of feelings of satisfaction and/or frustration do [did] you get from your work?)

3. Do (did) you think about your work when you are (were) at home? When you first think (thought) of your work in the morning, where are (were) you and what kinds of thoughts and feelings are (were) you having?

4. What are (were) some of the sources of frustration with your work? In what ways do (did) you depend upon or work with other people?

5. Do (did) the people of the community value your work contributions? How many know (knew) and understand (understood) your job and its relation to the community?

6. What kinds of personal characteristics are (were) especially helpful in your work? Would a certain kind of person work better in your setting than in others?

7. Was this your first work experience? If not, how many additional work experiences have you had?

8. How did you learn about this work?

9. Did people influence you into taking this type of work? Who were they?

# THE XYZ CHOICE

This exercise uses the four ingredients of good decision-making that involve information: alternatives, outcomes, probability, and desirability. The purpose of the exercise is to introduce or illustrate the concept of strategy. Strategy for a decision-maker is his/her criterion or principle for choosing and it answers the question "Why did you choose that?" Using abstract or "meaningless" alternatives like X, Y, and Z forces a decision-maker to have reasons for choosing. When he says "I chose X because it was first," etc., he is describing a strategy.

The series of six decisions in this exercise is intended to show that every decision involves a strategy (reason), but usually it is not made explicit by the decision-maker. The sequence of decisions also shows that strategy involves an attempt to pick the alternative that leads to the best outcome ("I chose X because it was first" implies that you think "first will be best"). The use of ambiguous outcomes (Able, Baker, etc., or Yen, Mark, etc.) also forces the decision-maker to say how desirable he finds each possible outcome ("I like Able best because . . .").

The two things we want to know most about outcomes when making a choice, then, are "how likely are they to occur?" and "how desirable are they to me?"

Begin this exercise by listing the four information ingredients across the board—Alternatives, Outcomes, Probability, Desirability. Then, under Alternatives, list X, Y, and Z. At this point ask students to choose *one* alternative, *without any further information*.

1. Find out how many chose each alternative (perhaps keeping a tally on the board).
2. Ask some to tell why they chose.
3. See the first 7 discussion points listed below.

From this point on, follow one of the sequences pictured on pages I-13 and I-14. The sequence listing money under Outcomes is somewhat less abstract than the one listing Able, Baker, etc. Whichever you use, list one column at a time, cover the appropriate discussion points in the list of 20 points below, and give students at each step an opportunity to change their choice. Note that they may choose only X, Y, or Z at each step, not one of the branches (3,000 pounds, Able, Baker, etc.). Under Desirability, list and discuss each of the three categories of desirability one at a time. You can make up worksheets such as the one on page I-15. Have students fill them out during the discussion, and collect them for tabulating choices or for use in future discussions or exercises.

What you want students to learn in this exercise is the concept that *each* of the four information ingredients is necessary in making a good decision.

1. If you know just alternatives, you have no relevant basis for choosing.
2. Knowing possible outcomes helps only as far as you can ascribe desirability to them.

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SOURCE: Gelatt, H.B. et al. *Decisions and Outcomes: A Leader's Guide*. New York, NY: College Entrance Examination Board, 1973, pp. 73-80. Permission to use copyrighted material obtained.

3. Probability information—that is, the chances that you will get the outcome listed—is helpful. Right away it brings out "risk-taking" or "play-it-safe" strategies.

4. Desirability is the information most people want most. In this exercise, desirability is discussed in three successively more specific ways.

When you have finished, it would be instructive to try to get students to describe the strategy they used in making the final choice. Most strategies are concerned with risks, and the four most common risk strategies are these:

1. Ignore risk; choose the action that *could* lead to the most desirable outcome, regardless of risk. (Wish Strategy)

2. Avoid risking the worst; choose the action that will most likely eliminate the worst possible outcome. (Escape Strategy)

3. Take the best odds; choose the action that is most likely to bring success (has highest probability). (Safe Strategy)

4. Get the best combination of low risk and desirable outcome; choose the action that has *both* high probability and high desirability. (Combination Strategy)

Those who chose Y, for example, may say they used the principle of "playing it safe" or of "avoiding any loss," or some version of type 2 or 3. Those who chose X might give you some version of 1 or 4. Those who chose Z might describe their willingness to take risks "up to 50 percent," etc., or might eliminate Y (because it does not have highly desirable outcomes compared to X and Z) and apply strategy 3 to the remaining two alternatives.

The exercise and the discussion are intended to start students thinking about the fact that there are several possible strategies to use when choosing, and knowing several may make them better decision-makers.

Here are 20 important points to be made during discussion.

1. No one's answer is wrong!

**Decision 1**

2. The "reasons" for choosing in decision 1 are probably illogical and irrelevant because there are no data given on which to base a logical reason.

3. In the absence of data, people's minds invent information or "reasons."

4. Sometimes we do the same thing (invent reasons) in real decisions when we don't have complete data.

5. Since the class will usually distribute itself among choices X, Y, or Z, rather than preferring any one of them, the point is clear that people have different preferences given the same information.

6. People have the same preferences for different reasons (e.g., several people chose X for different reasons, etc.).

7. What everyone is really doing is trying to "guess" what will be the most desirable outcome (knowledge of desirability of outcomes is one of the most important pieces of information to have).

**Decision 2**

8. When you fill in the Outcomes column, you don't know much unless you also know desirability.

9. Again, we try to "guess" desirability. In the case of Able, Baker, Charlie, etc., we make associations and ascribe difficulty. In the case of pounds, marks, yen, etc., we use our incomplete knowledge for ranking. Remember that we are always choosing only X, Y, or Z, and not making a choice between branches.

10. Choice Y in the pounds-yen variation offers a no-risk choice that is appealing to some people, but interestingly enough not to all people.

**Decision 3**

11. When data on probability of success are added, many will find it easier to decide. Try to get a description of strategy here.

12. Often people believe that something with low probability of success has high desirability.

13. In the pounds-yen version, X has a 40 percent chance of success, Y has a 100 percent chance of success, Z has a 90 percent chance of success. Still the class will probably distribute its choices among all three. Why?

14. Ask the question: "Why wouldn't everyone choose Y?"

15. People differ in their preferences for probability odds—that is, to some a 40 percent chance is too much risk, to others a 90 percent chance is too much risk, etc.

**Decision 4**

16. When desirability of outcomes is identified only as "good" or "bad" (a two-point scale), desirability information helps only a little in choosing.

**Decision 5**

17. The ranking of desirability is much more helpful. Note that some decisions that have "good" desirability may still be ranked third or fourth.

18. Most people have little practice in ranking desirability. This is an important decision-making skill.

**Decision 6**

19. For most personal decisions, most people never get beyond ranking into scaling. Scaling answers the question: "How much better is number 1 rank than number 2 rank?" etc.

20. With this information most people can now choose X, Y, or Z with some confidence.

This exercise should be full of discussion after each decision. Encourage people to express their thoughts and feelings, both positive and negative, as they go along.

At the end, you might want to try something like this with your students:

"Assume now that I am your decision agent (see "The Starting Point") and that I am going to make your decisions for you in some variations of XYZ Choice. The value of the outcomes and the probability figures will be changed each time. I will not be able to talk to you again. Tell me how I should decide for you each time—that is, give me a strategy I can apply whatever the value and probabilities may be."

Telling someone else how to decide for you is the best way to get at the definition of strategy. Consider a strategy as a "way to play the game." Almost everyone has played tic-tac-toe. Most people use a strategy for winning. Ask the class to describe their strategies for winning in tic-tac-toe. It will help if they imagine they are telling someone else (an agent) who must play the next game for them.

A strategy for tic-tac-toe is more complicated because it must take into account an opponent who is trying to make you lose. However, it is a game of "perfect information" (where everything that has happened or can happen is known). In making personal decisions, you never have perfect information.

## XYZ CHOICE

| ALTERNATIVES (Decision 1) | OUTCOMES (Decision 2) | PROBABILITY (Decision 3) | DESIRABILITY | | |
|---|---|---|---|---|---|
| | | | Good or Bad (Decision 4) | Rank (Decision 5) | Scale (Decision 6) |
| X | WIN 3,000 Pounds | 40 | Good | 1 | $10,000 |
| | LOSE 3,000 Yen | 60 | Bad | 5 | -$10 |
| Y | WIN 3,000 Francs | 50 | Good | 3 | $600 |
| | WIN 3,000 Lira | 50 | Good | 4 | $5 |
| Z | WIN 3,000 Marks | 90 | Good | 2 | $1,000 |
| | LOSE 3,000 Yen | 10 | Bad | 5 | -$10 |

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NOTE: At each decision point, the only possible choices are X, Y, or Z—not one of the branches.

## XYZ CHOICE—ALTERNATE EXERCISE

| ALTERNATIVES (Decision 1) | OUTCOMES (Decision 2) | PROBABILITY (Decision 3) | DESIRABILITY Good or Bad (Decision 4) | DESIRABILITY Rank (Decision 5) | DESIRABILITY Scale (Decision 6) |
|---|---|---|---|---|---|
| X | ABLE | 40 | Good | 1 | $10,000 |
| | BAKER | 60 | Bad | 5 | -$10 |
| Y | CHARLIE | 50 | Good | 3 | $600 |
| | DOG | 50 | Good | 4 | $5 |
| Z | EASY | 90 | Good | 2 | $1,000 |
| | BAKER | 10 | Bad | 5 | -$10 |

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NOTE: At each decision point, the only possible choices are X, Y, or Z—not one of the branches.

## WORKSHEET FOR XYZ CHOICE

**Decision 1**

Choice (X, Y, or Z) ______________

Reason ______________

**Decision 2**

Choice (X, Y, or Z) ______________

Reason ______________

**Decision 3**

Choice (X, Y, or Z) ______________

Reason ______________

**Decision 4**

Choice (X, Y, or Z) ______________

Reason ______________

**Decision 5**

Choice (X, Y, or Z) ______________

Reason ______________

**Decision 6**

Choice (X, Y, or Z) ______________

Reason ______________

**HANDOUT**

## CAREER DEVELOPMENT PRINCIPLES

1. External forces, such as the environment and parents, influence career choice.
2. Individuals seek occupations that meet most of their needs.
3. Career choice is related to personality.
4. Individuals possess measurable traits.
5. Occupations have specific tasks.
6. Personal traits can be matched to occupational tasks.
7. Occupational decisions occur numerous times in one's life.
8. Career development is a lifelong process.
9. Decision-making skills can be learned.
10. Career decision making is influenced by genetic endowment, environment, and learning experiences.
11. Interests are a consequence of learning, and learning is what leads people to make occupational choices.
12. Changes in learning produce changes in preferences and interests that can change occupational choice.
13. Critical career decision points occur throughout one's life.
14. Chance experiences can affect career choice.
15. There are common recognizable stages of development during childhood and adult life.
16. Individual development involves progressive differentiation and integration of a person's self and perceived world.
17. Each individual progresses through developmental stages at his or her own pace.
18. Excessive deprivation in any single aspect of human development can retard optimal development in other areas.
19. Personal awareness does not occur in a vacuum, but results from both real and vicarious experiences.

# CAREER DEVELOPMENT THEORIES: A BEGINNER'S OVERVIEW

## Introduction

This handout reviews various theories of career development and career choice and provides an overview for a student new to the area.

### The Theory of Theories

First, a word is necessary about the nature of theory in general. Shertzer and Stone (1974) define theory as a statement of general principles, supported by data, offered as an explanation of a phenomenon. A good theory should summarize and generalize a body of information. It should facilitate understanding and explanation of complex phenomena within that body of information. It should act as a predictor between variables in that body of information. And it should stimulate further research.

### Categories of Theories

With so many different theories of career development, it is useful to create some classes into which we can place the various theories. For this paper the theories are divided into three groups. The first focuses primarily on *nonpsychological factors* as those contributing most to what occupations people choose when they grow up. Included here are the accidental, sociological, and economic approaches. The second group focuses primarily on the *differences between individuals* as most important. This group includes the personality and trait-factor approach, as well as Holland's typology of people and environments. The final group focuses primarily on *internal processes and development* as most important. This group includes the developmental, social learning, decision-making, and cognitive approaches. A fourth group, theories of adult career development, cuts across the other three groups and is presented as a separate section.

### How to Read the Theories

It is important to remember as you read through the theories that no one theory is going to explain everything. Thus, your own personal theory may not be any one of the following theories. Instead, it may be some combination or permutation of several of these theories and perhaps some ideas of your own. When you read each theory, realize that it addresses some issues very well and other issues not so well; whereas a part of the value of each theory is how many issues it adequately addresses, each of the theories does provide some major contribution.

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SOURCE: Shertzer, B., and Stone, S.C. *Fundamentals of Counseling, Second Edition*. Boston: Houghton-Mifflin Company, 1974.

SOURCE: This paper was compiled by Thomas S. Krieshok, a counselor education student at the University of Missouri-Columbia; this condensed version is printed here with the permission of Dr. Norman Gysbers, Professor, the University of Missouri-Columbia.

## Group I: Theories That Focus on Nonpsychological Factors

Several theories argue that the occupation into which an individual goes is determined primarily by forces beyond the control of that individual. These theories are in sharp contrast to those discussed later, which argue for the influence of psychological differences and dynamics within each of us.

### Theory 1: The Accidental Approach

The accidental approach to career development is in part based on observations of the work histories of individuals. Miller and Form (1951), two occupational sociologists, analyzed the occupational backgrounds of a large group of people, and concluded that:

> One characteristic is outstanding in the experience of most of the case histories that have been cited. In their quest of a life work there has been a vast amount of floundering, and chance experience appears to have affected choices more than anything else. No single motivating influence appears which has finally crystallized into a wish for a certain occupation. Chance experiences undoubtedly explain the process by which most occupational choices are made. (p. 660)

Osipow (1969) expanded on the accidental theory, noting that:

> The view may be summarized in a single sentence. People follow the course of least resistance in their educational and vocational lives. It may be a moot point as to whether the "least resistance theory" is more valid than one of the more self-conscious views of career development.

The strength of the accidental theory is that for a good number of people it appears to explain very accurately the progression from job to job. The weakness is that it does not give credit to all the individuals who seemingly make conscious choices about career paths. While it may explain the career development of some individuals, it does not allow us to predict very well because of its reliance on chance occurrences.

#### Sources and Related Readings

Miller, D., and Form, W. *Industrial Sociology*. New York: Harper and Row, 1951.

Osipow, S. "What Do We Really Know about Career Development?" *National Conference on Guidance, Counseling and Placement in Career Development and Educational-Occupational Decision-Making*, edited by N. Gysbers and D. Pritchard. Columbia, MO: University of Missouri, 1969. (ERIC Document Reproduction Service no. ED 041 143)

### Theory 2: The Sociological Approach

The sociological approach to career development denotes a belief that external forces have a great impact on the career choice of an individual. Sociologists deal with the process by which occupations are passed on from generation to generation, the impact of environmental factors on options and decisions, and the meaning of work in our society. Theorists in this group assume that people's social background has much to do with the choices they consider and make. Influences include occupation and income of parents, education of parents, sex, race, ethnic group, religion, place and type of residence, family stability, size of family, birth order, values of peers, school environment, and community. Sociologists have collected and analyzed information to determine the degree of influence these and other variables have on work and on career choices.

The effects of social factors are taken into account by practically all approaches, but the amount of emphasis varies. It is necessary to incorporate sociological factors into any general approach or risk the chance of being unable to explain commonly observed phenomena.

The sociological approach has not been widely applied to the field of guidance and counseling in the past. Presently, more attention is being paid to sociological factors, especially to the rethinking of traditional sex roles, the changing of social stereotypes, and counseling with minorities.

The strength of this theory is that it helps us understand many of the external forces acting on the career decision-making process, and suggests how to account for and alter those forces. The weakness is that it does not explain why the same apparent forces have their effect on some individuals and not on other individuals.

### Sources and Related Readings

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Hollingshead, A.B. *Elmstowns Youth*. New York: Wiley, 1949.

Miller, D.G., and Form, W.H. *Industrial Sociology*. New York: Harper and Row, 1951.

Lipsett, L. "Social Factors in Vocational Development." *Personnel and Guidance Journal* 40 (1962): 432-437.

Sewell, W.; Haller, A.; and Strauss, M. "Social Status and Education and Occupational Aspiration." *American Sociological Review* 22 (1957): 67-73.

Super, D., and Bachrach, P. *Scientific Careers and Vocational Development Theory*. New York: Teachers College Bureau of Publications, 1957.

### Theory 3: The Economic Approach

Resting upon the assumption that people have freedom of choice in occupational selection, the economic approach emphasizes labor trends and job market demands. Individuals are assumed to seek occupations that offer the most of what they want. Most traditional economic theorists assert that valid generalizations and forecasts concerning career choice can only be made from the statistical analysis of large numbers of individuals. The occupational distribution of workers is seen as a function of the basic law of supply and demand, income level being the best predictor of the relative supply or demand present in that occupation. Thus, a high-income position requires individuals with skills that are relatively low in supply and vice versa. Most current theorists view career choice as dependent on a number of variables in addition to supply and demand, including: (1) labor supply, (2) labor demand, (3) public knowledge of various opportunities and future opportunity outlooks, (4) one's ability to secure necessary training and/or education as determined by individual resources and the number of openings available for such experiences, and (5) relative monetary return for services rendered.

The strength of such a theory is that it makes such intuitive sense. We believe that these are issues which people consider when choosing a career. The weakness is that several other factors (such as the effects of trade unions) impact salary levels and job distribution, and these are not accounted for by pure economic theory.

### Sources and Related Readings

Becker, G.S. *Human Capital*. New York: Columbia University Press, 1975.

Clark, H. *Economic Theory and Correct Occupational Distribution*. New York: Teacher's College Bureau of Publications, 1981.

Thomas L. *The Occupational Structure and Education*. Englewood Cliffs, NJ: Prentice-Hall, 1956.

Wolfbein, S. "Career Development under Social and Economic Change." In G. Walz, R. Smith, and L. Benjamin, eds., *A Comprehensive View of Career Development*. Washington, DC: American Personnel and Guidance Association Press, 1974.

## Group II: Theories That Focus on Interpersonal Differences

While the theories in the previous section held that factors outside of the person are the main contributors to the person's career choice, the theories in this section suggest that persons are drawn to careers because they will satisfy various internal needs, drives, or attitudes. Since those internal needs or attitudes are very particular to an individual, this section can be thought of as consisting of theories that argue that individual differences contribute most to a person's career choice.

### Theory 4: The Personality Approach

Personality theorists believe that individuals' career choices are products of their personality. Environment is taken into account only secondarily. This approach considers individual motives, drives, emotional states, and the dynamics of personality.

A major personality theory in the area of career selection is that proposed by Roe (1964). She developed a vocational choice theory based on the child's formative emotional climate in terms of dominant attitudes of parental figures. She suggested that the quality of those early relationships affects the development of interests and, in turn, occupational choice.

Major hypotheses from this theory are as follows:

1. Loving, protecting, and demanding homes would lead to person-orientation in the child and later to person-orientation in occupations.
2. Rejecting, neglecting, and casual homes would lead to non-person orientation in occupations.

3. If extreme protecting and extreme demanding conditions were felt by the child to be restrictive, he or she might, in defense, become non-person oriented.

4. Some individuals from a rejecting home might become person-oriented in search of satisfaction.

5. Loving and casual homes might provide a sufficient amount of relatedness such that other factors (e.g., abilities) would determine interpersonal direction more than personal needs. (Tolbert 1974)

While Roe's causative explanation of personality and occupation has not been validated, her classification of occupations by groups and by levels does contribute to vocational research. The eight groups are classified according to responsibility and skill. The following are Roe's groups and levels:

**Groups**

I. Service
II. Business Contact
III. Managerial
IV. Technology
V. Outdoor
VI. Science
VII. General Cultural
VIII. Arts and Entertainment

**Levels**

1. Professional and Managerial 1
2. Professional and Managerial 2
3. Semiprofessional
4. Skilled
5. Semiskilled
6. Unskilled

Roe also accounted for the different levels of professionalism in each occupational group. She argued that the child enters the world with a genetic predisposition for expending psychological energy, and this dictates the eventual level the individual achieves.

The strength of the personality approach to career development is that it examines career choice within the broader framework of personality theory. The major contribution of Roe's theory has come not in its ability to predict or explain, but in its classification system.

### Sources and Related Readings

Bordin, E.; Nachmann, B.; and Segal. "An Articulated Framework for Vocational Development." *Journal of Counseling Psychology* 10 (1963): 107-116.

Brill, A. *Basic Principles of Psychoanalysis*. New York: Doubleday, 1949.

Roe, A. "Early Determinants of Vocational Choice." *Journal of Counseling Psychology* 4 (1957): 212-217.

Roe, A., and Siegelman, M. *Origin of Interests*. APGA Inquiry Studies, No. 1. Washington, DC: American Personnel and Guidance Association, 1964.

Tolbert, E.L. *Counseling for Career Development*. Boston: Houghton-Mifflin Co., 1974.

## Theory 5: The Trait Factor Approach

The first well-articulated vocational theory and the one that acts as the base for most of the others is the trait factor approach. It suggests that people are different in terms of several variables, and that scientists can measure those differences. Secondly, it suggests that different jobs require different traits or skills, which can also be described and measured. Finally, it suggests that a counselor's role is simply to assess the client across several important variables, to collect and organize information about the demands of various occupations, and to effect the best match between the client's assets as the counselor has assessed them and various occupational demands.

A criticism of the trait factor approach has been that it assumes individual traits and environmental requirements are relatively static rather than dynamic. Lofquist and Dawis (1969) addressed this issue when they expanded the trait factor theory in their development of the work adjustment theory. They agree that an individual's needs should be matched with the job demands in order to secure a good fit, but their theory goes on to deal with what happens to people once they are in the job. They assume that people are motivated to fulfill work requirements in order to have their own personal requirements fulfilled by work. The give and take of this process is called correspondence. The effort required to maintain correspondence is known as work adjustment.

The strengths of the trait factor approach are: (1) it gave counseling psychology an identity; (2) it makes a good deal of intuitive sense that individual differences do exist and are measurable, and that different jobs require different competences; (3) it advanced considerably the state of the art of testing and statistics related to test development; (4) there is a certain cleanness about receiving the results of a test or an inventory that cannot be equaled by simply having counselors give you their clinical impressions; and (5) there is a body of research that supports the superior predictive ability of assessment instruments over simple clinical judgment, although this is not as clear in the area of career development as it is for personality in general. Some of the weaknesses are: (1) that the approach is too mechanistic and too cognitive, and (2) that the importance of the client's reaction in the interpretation and acceptance of counseling information is not emphasized fully enough. Another weakness is that the counselor may take on too much responsibility for the outcome of counseling and that the client may accept too little responsibility. This is in part due to the level of knowledge that the counselor is expected to have, both about the world of work and about clients in general.

The trait factor approach is the granddaddy of career development theories. Beginning in the early 1900s, it dominated the field until the 1950s, at which time it started to be swallowed up into broader theories that could account for more phenomena and that were not so mechanistic in their applications (Davis 1969; Herr and Cramer 1979; Norris et al. 1979; Parsons 1909; Williamson 1965; Williamson and Biggs 1979).

### Sources and Related Readings

Davis, H. *Frank Parsons: Prophet, Innovator, Counselor.* Carbondale: Southern Illinois University Press, 1969.

Herr, E.L., and Cramer, S.H. *Career Guidance through the Lifespan: Systematic Approaches.* Boston: Little, Brown & Co., 1979.

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Norris, W.; Hatch, R.N.; Engelkes, J.R.; and Winborn, B.B. *The Career Information Service*. Chicago: Rand McNally, 1979.

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Williamson, E. *Vocational Counseling: Some Historical, Philosophical and Theoretical Perspectives*. New York: McGraw-Hill, 1965.

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## Theory 6: Holland's Typological Approach

The theory of John Holland (1972, 1973; Holland and Gottfredson 1976) has come to be one of the dominant theories in the field of career development. Holland's theory is something of a hybrid between trait factor theory and personality theory. Like trait factor theorists, he suggests the importance of matching a person's interests and abilities with the environment of the job. And like personality theorists, he argues that the choice of an occupation is an expression of one's personality.

### Holland's Personality Types

Holland assumes that in our culture, most persons can be categorized as one of six personality types. Descriptions of the six types follow.

**Realistic personality**. These are people who prefer to deal more with things than with ideas or people, are more oriented to the present than to the past or future, and have structured patterns of thought. They perceive themselves as having mechanical and athletic ability. They are apt to value concrete things or tangible personal characteristics like money, power, status; they will try to avoid goals, values, and tasks that require subjectivity, intellectualism, or social skills. They tend to be more conventional in attitudes and values because the conventional has been tested and is reliable. They possess a quality of persistence, maturity, and simplicity. Realistic types are found in occupations related to engineering, skilled trades, and agricultural and technical vocations.

**Investigative personality**. These are people who are analytical and abstract, and who cope with life and its problems by use of intelligence. They perceive themselves as scholarly, intellectually self-confident, and as having mathematical and scientific ability. They hold less conventional attitudes and values, tend to avoid interpersonal relationships with groups or new individuals, and achieve primarily in academic and scientific areas. They are likely to possess a high degree of originality, as well as verbal and math skills. Investigative types are found in occupations related to science, math, and other technical careers.

**Artistic personality**. These are people who tend to rely more on feelings and imagination. They perceive themselves as expressive, original, intuitive, nonconforming, introspective, independent, and as having artistic and musical ability (acting, writing, speaking). They value esthetic qualities and tend to place less importance on political or material matters. They have artistic aptitudes rather than mathematical aptitudes, they avoid direct relationships, and they learn to relate by indirect means through their medium. Artistic types are found in occupations related to music, literature, the dramatic arts, and other creative fields.

**Social personality.** These are people who have high interest in other people and are sensitive to the needs of others. They perceive themselves as liking to help others, as understanding others, as having teaching abilities, and as lacking mechanical and scientific abilities. They value social activities, and are interested in social problems and interpersonal relations. They use their verbal and social skills to change other people's behavior. They usually are cheerful and impulsive, scholarly, and verbally oriented. Social types are found in occupations related to teaching, social welfare positions, and the helping vocations.

**Enterprising personality.** These are people who are adventurous, dominant, and persuasive. They place high value on political and economic matters and are drawn to power and leadership roles. They perceive themselves as aggressive, popular, self-confident, social, as possessing leadership and speaking abilities, and as lacking scientific ability. They use their social and verbal skills with others to obtain their political or economic goals. Enterprising types are found in occupations related to sales, supervision of others, and leadership vocations.

**Conventional personality.** These are people who are practical, neat, organized, and work well in structured situations. They feel most comfortable with precise language and situations where accurate accounting is valued. They perceive themselves as conforming, orderly, and as having clerical and numerical ability. They value business and economic achievement, material possessions, and status. They are happy as and make good subordinates and they identify with people who are strong leaders. Conventional types are found in occupations related to accounting, business, and computational, secretarial, and clerical vocations.

While no individual is all one type, people tend to affiliate with, enjoy being around, and be most like one, two, or sometimes three of the types, and tend to be less like two or three of the other types. People are categorized by the type they are most like, followed by the type they are next most like, and finally, the type they are third most like.

## Holland's Environmental Types

Environments may also be classified according to their demands and the types of people who work in them. The descriptions of the environments closely resemble the descriptions of the persons dominating each environment. The following are brief descriptions of each of the six model environments.

**Realistic environment.** This environment—

- stimulates people to perform realistic activities;
- encourages technical competencies and achievements;
- encourages people to see themselves as having mechanical ability;
- rewards people for the display of conventional values and goals, such as money, power, and possessions.

**Investigative environment.** This environment—

- stimulates people to perform investigative activities;
- encourages scientific competencies and achievements;
- encourages people to see themselves as scholarly, and as having mathematical and scientific values;
- rewards people for the display of scientific values.

**Artistic environment.** This environment—

- stimulates people to engage in artistic activities;
- encourages artistic competencies and achievements;
- encourages people to see themselves as expressive, original, intuitive, nonconforming, independent, and as having artistic abilities (acting, writing, speaking);
- rewards people for the display of artistic values.

**Social environment.** This environment—

- stimulates people to engage in social activities;
- encourages social competencies;
- encourages people to see themselves as liking to help others, understanding others, and being cooperative and sociable;
- rewards people for the display of social values.

**Enterprising environment.** This environment—

- stimulates people to engage in enterprising activities, such as selling or leading others;
- encourages enterprising competencies and achievements;
- encourages people to see themselves as aggressive, popular, self-confident, sociable, and as possessing leadership and speaking abilities;
- rewards people for display of enterprising values and goals, such as money, power, status.

**Conventional environment.** This environment—

- stimulates people to engage in conventional activities such as recording and organizing data or records;
- encourages conventional competencies and achievements;
- encourages people to see themselves as conforming, orderly, and as having clerical competencies;
- rewards people for the display of conventional values, such as money, dependability, conformity.

## Holland's Person-Environment Match

People search for environments that will allow them to exercise their skills and abilities, express their attitudes and values, and take on agreeable roles. People seek out persons similar to themselves, and where people congregate, they create environments that reflect their personality types. Behavior, especially job satisfaction and stability, is determined by the interaction between personality characteristics and the characteristics of the job environment.

The strengths of Holland's theory are: (1) it is easily understood and make intuitive sense; (2) it contains clear definitions of constructs; (3) it has an internally consistent structure; (4) it has a very broad research base across diverse populations; (5) it has developed useful assessment devices; and (6) it has contributed much to a parsimonious description and classification of both individuals and occupations. The weaknesses of the theory are: (1) it deals primarily with external phenomena rather than internal developmental phenomena in its validation; (2) it offers little explanation other than slight reference to social learning theory about how the person's type is acquired; (3) as with other trait theories, instability is not seen as helpful under any conditions and no suggestions are given as to when the counselor should discourage instability of code.

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## Group III: Theories That Focus on Internal Processes

The following theories of career development concern themselves primarily with processes within the person. These theories contend that the individual's career choice is a fluid process that focuses slowly over time and may be occasionally reshaped.

### Theory 7: The Developmental Approach

Recent developmental theorists visualize occupational decisions as taking place a number of times in the course of one's life. These decisions are integrally related to one's aspirations and overall career goals. These goals cannot be separated from one's life goals. Thus, developmental theorists see one's career as a continuous pattern beginning in childhood and ceasing at death.

Jordaan (1977) and Super (1976) believe that individuals are capable of moving through these stages at various speeds and that one may return to an earlier stage without venturing outside of normalcy.

An important concept in Super's formulation of career development is that of career maturity—a readiness to engage in the developmental tasks appropriate to the age and level in which one finds oneself. Maturity, however, is not something that is ever reached, but instead is the process relative to where one is at any given time. This formulation of the concept helps to promote a lifespan notion rather than a static and irreversible pattern of development.

Super described the developmental tasks appropriate to each stage as the following:

- Crystallization — the individual formulates ideas about work that would be appropriate.
- Specification — the individual narrows a general career direction into a specific one.
- Implementation — the individual completes training and enters relevant employment.
- Stabilization — the individual settles down within a field of work but may change positions within the field.
- Consolidation — the individual consolidates status and advancement to establish security.

In summary, Super's developmental theory offers five main tenets: (1) vocational selection is the implementation of a person's self-concept; (2) vocational decisions are similar to other decisions and continue to be made throughout the lifespan; (3) career development can be described as a stage process with developmental tasks at each stage (the nature of these stages is not lock-step but cyclical, indicating that individuals in middle or later life may return to earlier stages of development); (4) career maturity is a measure of one's knowledge of and attitudes toward oneself, careers, and career decision making; (5) persons who are at different stages of development need to be counseled or dealt with in different ways (likewise, persons at similar stages, but with different levels of career maturity, also need to be dealt with in different ways).

The strengths of Super's developmental theory are: (1) it takes into consideration more than just occupational choice, because it allows consideration and study of what goes on inside the individual and how those internal processes play themselves out in the course of a lifetime; (2) unlike career choice theories, which look only at singular choice points in a person's life, developmental theories consider the whole series of decisions in a given person's lifetime; (3) the concept of career maturity and the idea of treating persons at different levels of maturity differently. Some weaknesses of Super's theory are: (1) while founded empirically, most of the early study was on young white middle-class males (also, some argue that lifelong developmental theories, more than others, are very work oriented, and define the individual too much in terms of his or her work life while paying too little attention to other, avocational aspects); (2) there is difficulty in researching Super's constructs. Longitudinal research, such as the Career Pattern Study, is necessary to validate such a developmental theory, yet longitudinal research is extremely difficult to carry out and, indeed, little of it has been carried out. Even nonlongitudinal research is difficult to perform because of the problems of operationalizing the constructs.

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### Theory 8: The Social Learning Approach

John Krumboltz (1973, 1976, 1979) designed a theory of career decision making (CDM) to explain how career interests develop, how the environment influences one's CDM, and the manner in which CDM skills are developed. Krumboltz holds that the CDM process is influenced by genetic endowment, environmental conditions and events, and learning experiences. CDM learning takes place in a way consistent with other social learning theory. The three main categories of learning, according to social learning theorists, are: (1) reinforcement—certain behaviors, attitudes, decisions, and so forth are rewarded by the self, others, or the environment; (2) modeling—witnessing another person engaging in certain behaviors and consequently being rewarded for those behaviors; (3) contiguous pairing, or classical conditioning, wherein a certain behavior or attitude coincides with a reward or a punishment such that behavior is consequently approached or avoided, even when the original reward or punishment is no longer present.

All of these learnings impinge on the individual and play a major role in the development of *task approach skills*. These skills help the individual engage in CDM and participate in those activities that will lead to the solution of career-related problems. Thus, they may be seen as a sort of readiness for CDM, or even as career maturity. They lead to self-statements and feelings about one's own CDM ability and enable individuals to predict their future CDM actions, such as going on a job interview or applying to a training school.

According to social learning theory, interests are a consequence of learning, and *learning* is what leads people to make occupational choices, not interests. The process of career planning and development is seen as one in which a change in learning will produce a change in preferences and interests. The greatest implication stemming from this theory is that we should provide great variation in the learning experiences of young people. Social learning theory views vocational undecidedness as an information deficit, not as a sign of immaturity. Career counseling is seen not merely as a process of matching existing personal characteristics with existing job characteristics, but as a process of opening up new learning experiences and motivating the client to initiate career-relevant exploratory activities.

The strengths of the theory are: (1) it does the best job of explaining the process by which interests are developed, and thus helps individuals understand why they have the stereotypes they do and, to some degree, also provides a model for altering those interests or stereotypes; (2) it views undecidedness as an information deficit and not as a weakness or a sign of immaturity in the individual. The weaknesses of the theory are: (1) the learning history's influence upon later interest patterns has not been established longitudinally, but only cross-sectionally; (2) the specific cognitive and behavioral processes necessary to define the effective decision-making process have not been proposed, nor is there much discussion about what a desirable decision is supposed to look like.

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## Theory 9: The Decision-making Approach

Decision-making theory suggests that, while career development is a continuous process, there are critical decision points that typically occur when an individual faces a change in jobs or in educational plans (Gordon 1981; and others). The most well-known decision-making theory is that of Tiedeman and his colleagues.

It is the explicit statement of the decision-making process that differentiates Tiedeman's theory from other theories of career development. The theory is not designed to predict behavior but to allow individuals to put their own decision-making activities into perspective, think out decisions, and control action by thought with more ease.

Tiedeman views decision making as integrally related to an individual's ego development and values development. An interaction is postulated to take place between the development of the ego, of values, and of one's decision-making ability. Each of the three variables may affect the other. Individuals' awareness of this interaction increases control over their lives. This control is referred to as "I" power, and the eight conditions individuals must master before obtaining "I" power are as follows:

1. Becoming more conscious of themselves in order to cooperate with the momentary and daily evolutions
2. Living more frequently in the now as opposed to the future and past
3. Becoming more planful and acting on their plans
4. Waking up to making their lives happen rather than just sleeping and letting their lives happen
5. Trusting themselves in order to tolerate anxiety when facing uncertainty
6. Being sensitive to others as they gain "I" power—not power over but power with and among other people
7. Recognizing and discarding old ways of thinking through self-remembering
8. Being honest with themselves
   (Miller-Tiedeman & Niemi 1977, p. 5)

In the mastery of these conditions, an individual's habitual or core decision-making strategy moves through a hierarchy from *aimless* to *fixed* to *impulsive* to *postpone* to *complaint* to *reluctant* to *planned* to *analytical*. Ego development and values development, as well as situational determiners and influencers will determine the eventual decision-making level adopted.

The decision-making process attempts to help individuals bring to their consciousness all the factors inherent in making decisions so that they will be able to make choices based on full knowledge of themselves and on appropriate external information. Tiedeman and O'Hara's (1963) model divides the process of decision making into two aspects, anticipation and accommodation. Anticipation consists of a person's preoccupation with the parts out of which a decision is fashioned. Accommodation is the change from imagination and choice to implementation and reality-based adjustments between self and external reality (Dudley and Tiedeman 1977). The stages of exploration, crystallization, choice, and clarification are referred to as "problem forming." Problem forming leads into a "problem solving" level, which leads to a "solution reviewing" level. These levels are followed through for every decision made. The amount of thought given to the levels is dependent upon the individual's decision-making strategy, which in turn is dependent upon the individual's ego and values development. Knowledge of these interrelationships and how they affect one's decisions constitutes "I" power. The authors suggest that learners be taught "I" power, so that they might begin to accept personal responsibility for their own lives and their own happiness throughout their lives.

Some of the strengths of decision-making theory are: (1) the process of decision making, when it is explicitly defined, gives counselors a useful tool for all forms of decision making in counseling; (2) career development of an individual is not seen as occurring in a vacuum, but is viewed from several angles; and (3) decision-making theory places a great amount of responsibility on the individual and describes an ideal model that can be learned and applied to one's own life. Some weaknesses of the theory are: (1) the constructs deny prediction and thus make validation of the theory extremely difficult; (2) the style of Tiedeman's writing is complex and generally difficult to understand and follow.

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### Theory 10: The Cognitive Approach

The cognitive theories of career development are a relatively new addition to the field. They have grown out of the cognitive-developmental and cognitive-behavioral models used in counseling and therapy. People such as Beck (1970; Beck et al. 1979), Crabbs (1979), Dryden (1979), Ellis (1970), Gerler (1980), Kirby (1979), Knefelkamp and Slepitza (1976), Knefelkamp et al. (1976), Meichenbaum (1977), Perry (1970), Rest (1973), and Thoresen and Ewart (1976) have laid much of the theoretical groundwork, or have modified and extended the ideas to apply to career counseling.

According to Rest (1973), cognitive-developmental theories are built around three main ideas: (1) structural organization, (2) developmental sequence, and (3) interactionism.

**Structural organization.** Information processing is of central importance in cognitive models. People are seen as active interpreters of their environments. They selectively attend to certain stimuli, place a meaningful order on these stimuli, and develop principles to guide behavior and solve problems. The way people process information is determined by relatively fixed patterns called cognitive structures. These thought processes define how individuals view themselves, others, and the environment. The way individuals think will determine how they will behave. Changes in the cognitive structure must be brought about before changes in behavior can occur.

**Developmental sequence.** Development is seen as a progression through a fixed sequence of hierarchical stages. Each stage involves a different way of thinking. Greater cognitive differentiation and integration is required as individuals advance to higher levels. As people pass through the different stages, their view of themselves and the world is expanded and becomes more complex.

**Interactionism.** Development is seen as the result of an interaction between the person and the environment. Individual maturity or readiness must be matched with environmental opportunity in order for growth to occur. Growth is produced when individuals are confronted by stimuli from the environment that their cognitive constructs cannot handle. This creates dissonance or disequilibrium. In order to reduce this tension, individuals must change their cognitive structures to accommodate greater complexity. Too much dissonance can be overwhelming, however, and can prevent growth. Therefore, it is important that growth take place at a steady, gradual pace.

### Developmental Stages

One model (Knefelkamp and Slepitza 1976) contains four categories and nine stages. The categories include dualism, multiplicity, relativism, and commitment within relativism.

**I. Dualism.** This period is characterized by reliance on external factors to control decisions. Individuals lack the ability to analyze and synthesize information. Careers are seen as being either right or wrong for them, with little understanding of the complexity that is actually involved.

Stage 1. Individuals have a total reliance on external authorities. This may be parents, counselors, teachers, interest inventories, or friends. Persons accept the suggested careers as the only possible choices. Little or no self-processing of information takes place.

Stage 2. Individuals begin to realize that it is possible to make a wrong career decision. This causes anxiety. The individuals have very little understanding of the decision-making process, but are now becoming aware that things are not quite as simple as once assumed.

**II. Multiplicity.** Individuals accept a decision-making process. The locus of control is still outside of the individuals, but they are beginning to analyze career factors in more detail. An awareness of the relationship between consideration of multiple factors and right career decisions begins to develop.

Stage 3. Individuals become more aware that values, information, and prioritizing are important components of the decision-making process, and they begin to analyze careers using more self-dimensions.

Stage 4. Individuals now realize that multiple good career choices exist, and begin to prioritize using both internal and external sources of information. The decision-making process becomes a complex weighing of factors, with the hope that the right career will be found.

**III. Relativism.** The locus of control is shifted from an external reference point to an internal one. People see themselves as being primarily responsible for the decision-making process and begin to utilize higher levels of processing to analyze careers. They are able to deal with the positive and negative aspects of many careers and can see themselves in a variety of roles.

Stage 5. Counselors or teachers are now seen as knowledgeable sources of information, but are no longer the ultimate authority. Individuals see themselves as being in control, are able to become detached, and analyze alternatives in a systematic manner.

Stage 6. Individuals begin to tire of considering all the possibilities and desire to establish more order by making some choices. Not yet ready to make a commitment, this is a reflective stage in which the individuals establish ties between careers and themselves, consider the consequences of the commitment to be made, and face responsibility in making a commitment.

**IV. Commitment within relativism.** Individuals begin to realize that commitment to a career is not simply a narrowing of the old world, but is also an expansion into a new world. They become more integrated with their environments. Career identity and self-identity become more closely related. Values, thoughts, and behaviors become more consistent with one another, and the individuals can now deal with more challenges and changes from the environment.

Stage 7. Individuals move from a fear that making choices will be confining to a narrower role, toward a realization that it is themselves who ultimately defined their own roles. This leads to a new focus on individual styles and how people choose to fulfill a role.

Stage 8. The consequences of making a commitment are beginning to be felt. The result is a mixture of positive and negative emotions. New challenges arise that require a further redefinition of values, purposes, and identity. As this process continues, a deeper integration between all aspects of life takes place.

Stage 9. Individuals now have a firm understanding of self-identity, affects on others, and others' affects on them. The individuals constantly seek new ways of expressing self-identity. This involves seeking out and processing new information from the environment, taking new risks to more fully attain potential, and interacting more closely with others and the environment.

The main strength of the cognitive approach is that it gives full attention to the complex thought processes occurring throughout the career decision-making process. While other theories often deal with the consequences of those processes, the cognitive approach outlines in detail how it works and how it develops. The greatest weakness is that it describes a process very difficult to observe and thus test.

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## Group IV: Theories of Adult Career Development

The theories of adult development propose that adults in our society are confronted with tasks and life events quite different from those encountered by children, adolescents, and older individuals. During the past four decades there has been a dramatic rise of interest in researching adult development. Charlotte Buhler, Else Frenkel-Brunswik, Erik Erikson, and Robert Havighurst were pioneers in the research that defined life stages, the central issues of each stage, crisis points between stages, and the place of external events and subjective experiences in adult life development.

### Chronological Age Approach

In this view, transitions are closely linked to chronological age. One of the best-known studies is that of Daniel Levinson and colleagues (1977). Using a small sample of blue-collar and white-collar men between the ages of eighteen and forty-five, Levinson and his colleagues sought to identify "relatively universal, genotypic, age-linked adult development periods" (p. 49). The researchers say:

> One of our greatest surprises was the relatively low variability in the age at which every period begins and ends. It was not a prediction we made in advance. . . . This finding violates the long-held and cherished ideas that individual adults develop at different paces. (Levinson et al. 1978, p. 318)

Gail Sheehy (1974), in the best-seller, *Passages: Predictable Crises of Adult Life*, researched the life stories of 115 middle-class Americans, ages eighteen to fifty-five, in order to (1) trace inner change in her subjects, (2) compare the developmental patterns of men and women, and (3) examine the "predictable crises for couples." Her conclusions were: (1) men and women continue growing up from eighteen to fifty; (2) there are predictable crises (passages) at each step; (3) the steps are the same for both sexes but the developmental rhythms are not; and (4) we use each crisis to stretch to our full potential.

### The Life Stage Approach

Another group of theorists assert that human beings pass through an invariable sequence of developmental stages, though these stages are not necessarily linked exactly with chronological age; that is, some people move through them faster than others, and some people may become arrested at one stage and never move on.

Erik Erikson (1950) used both physiological and societal considerations in charting eight life stages. Each life stage unfolds in sequence, each is triggered by a turning point of increased personal vulnerability and potentiality, and each confronts the individual with central issues demanding resolution. Erikson's adult stages and life tasks are outlined as follows:

| | |
|---|---|
| Young Adulthood | Intimacy versus isolation |
| Middle Age | Generativity (a commitment to and caring for the next generation) versus stagnation |
| Maturity | Integrity (a belief that one's life has had purpose) versus despair |

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Charlotte Buhler (1968) defined life stages of growth, exploration, establishment, maintenance, and decline after analyzing the life stories of individuals of varied nationality, occupation, and social class. She looked at *external events* (what the people did, their jobs, their friends), *internal events* (what they think and feel about their lives), and *life accomplishments and products*. The socioeconomic expectations of individuals were the basis of her stage definitions.

Robert Havighurst (1952) saw the tasks of adulthood stemming mainly from the social roles adults take on—worker, mate, parent, homemaker, citizen—and he concluded that each developmental task produces a readiness to learn, which at its peak presents a teachable moment. (Think of how much parenthood was upon you when you took your first child home from the hospital; or earlier, how ready you were to find a job when you left school.) Some of the tasks are listed here with Havighurst's somewhat vague ordering of development:

| **Young Adult** | **Middle Adult** | **Old Adult** |
|---|---|---|
| 1. Select mate | 1. Achieve civic responsibility | 1. Adjust to decreased: |
| 2. Learn to live with partner | 2. Maintain home | (a) health |
| 3. Manage home | 3. Guide adolescents | (b) income |
| 4. Rear children | 4. Develop leisure | 2. Adjust to loss of spouse |
| 5. Begin occupation | 5. Adjust to body changes | 3. Social obligations |
| 6. Civic responsibility | 6. Relate to spouse | 4. Affiliate with own age group |
|  |  | 5. Adjust to retirement |

Roger Gould (1978) of UCLA compared a group of outpatients at UCLA's Neuropsychiatric Institute with a nonpatient group, and through observation and questionnaires he learned that adults generally pass through seven developmental stages, each stage having its special conflicts, joys, fears, and beliefs.

### The Lifespan Approach

Lifespan theorists hold a position that rests on the following premises: (1) development change and aging form a continual process, not limited to any particular stage of life; (2) change occurs in various interrelated social, psychological, and biological domains of human behavior and functioning; and (3) life-course development is multidetermined. Thus, according to this viewpoint, to understand a particular stage of life—including middle and old age—it is necessary to place it within the context of the preceding and following developmental changes and stabilities and within its historical context (Abeles and Rile 1977).

This approach is set in opposition to theories involving adult stages, on the grounds that stages cast development as unidirectional, hierarchical, sequenced in time, cumulative, and irreversible—ideas that are "not supported by commanding evidence" (Brim and Kagan 1980).

### The Individual Idiosyncrasy Approach

Diametrically opposed to the view that transitions are inextricably bound to chronological age or that they follow an invariable sequence is Bernice Neugarten (1979), who emphasizes variability or what she calls "individual fanning out." She and her colleagues on the Committee on Human Development at the University of Chicago, in their study of middle age and late life, contribute much insight into the way social and cultural influences affect adult development. Their research shows that most people have definite ideas that they learn from society about appropriate ages to do certain things (marrying, having children, selecting one's career direction). They have also found that in the early or mid-forties, individuals stop thinking in terms of time since birth and begin to compute time left to live.

### The Transition Approach

More recently, Schlossberg (1981; Schlossberg et al. 1978) has integrated the theories of Neugarten, Lowenthal, and others (1975) into a model for analyzing human adaptation to transition. The model includes three sets of factors that influence adaptation to transition: (1) the characteristics of the particular transition (positive or negative, expected or unexpected); (2) the characteristics of the pre- and posttransition environment (amount of family and institutional support); and (3) the characteristics of the individual who is experiencing the transition (age, health, values, and so forth).

For Schlossberg, a transition is not so much a matter of change as of the individual's perception of change. Adult lives are marked by the continuous adaptation to transitions that result from: (1) the general absence of change, or new life events; (2) the failure of an expected event or change to occur; or (3) the mitigation of events or circumstances formerly considered stressful.

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Schlossberg, N.K. "A Model for Analyzing Human Adaptation to Transition." *The Counseling Psychologist* 9, no. 2 (1981): 2-18.

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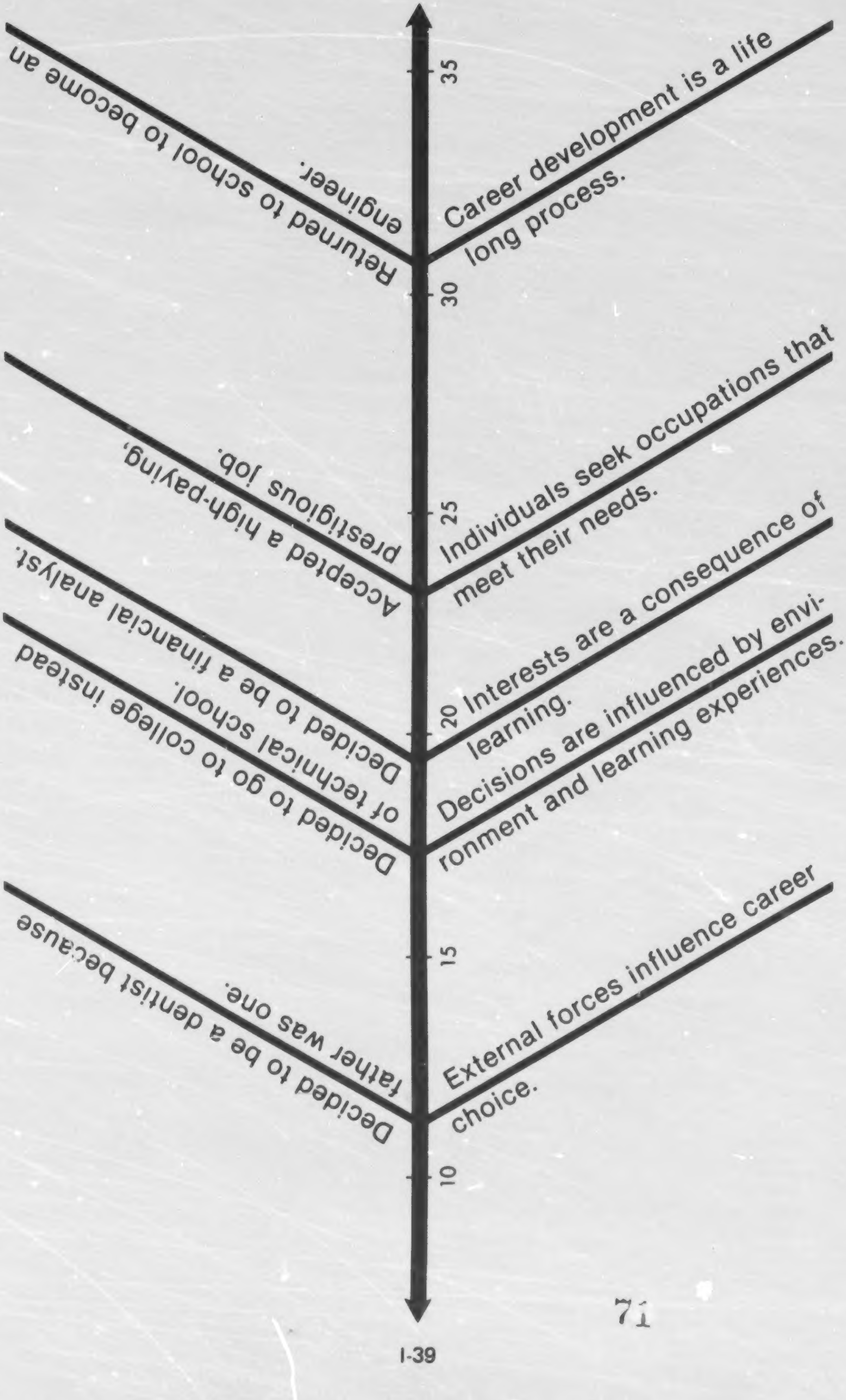
TRANSPARENCY MASTER I.I.1

# CAREER LINE EXAMPLE


35
Returned to school to become an engineer.
Career development is a life long process.
30
Accepted a high-paying, prestigious job.
Individuals seek occupations that meet their needs.
25
Decided to be a financial analyst.
Interests are a consequence of learning.
20
Decided to go to college instead of technical school.
Decisions are influenced by environment and learning experiences.
15
Decided to be a dentist because father was one.
External forces influence career choice.
10

## LEARNING EXPERIENCE II

## CAREER DEVELOPMENT CONCEPTS

**KEY CONCEPT:** Concepts delivered through career education are derived from career development theory.

**COMPETENCY:** Workshop participants will be better able to present career development concepts that relate to their curricula.

**PERFORMANCE OBJECTIVE:** Workshop participants will list at least three career development concepts that could be taught in their curricula.

---

**OVERVIEW:** The purpose of this learning experience is to make workshop participants aware of the basic career development concepts that can be incorporated into the K-12 curriculum. It highlights the areas of self, world of work, career planning, and decision making. The instructor presents career development concepts and the participants discuss, in small groups, which of these concepts could be incorporated into their curricula.

If your state or school district has a career education or career development model, use that one instead of the one presented.

---

| | | |
|---|---|---|
| **INSTRUCTOR'S INFORMATION:** | Time | 60 minutes |
| | Workshop Resources | **Handout Masters**<br>Self—page I-47<br>World of Work—page I-48<br>Career Planning and Decision Making—page I-49<br>Sample Activities—page I-50 |
| | | **Transparency Masters**<br>Career—page I-51<br>I've Made a Decision (Series)—page I-53 through I-59<br>Career Development Model—page I-61<br>Self—page I-63<br>World of Work—page I-65<br>Career Planning and Decision Making—page I-67 |
| | Instructional Methods | Large group presentation<br>Small group activity |

| Instructor's Outline | Notes |
|---|---|
| I. Introduction of Learning Experience | |
| A. Indicate that in this activity participants will learn the basic components of a career development model and then discuss how they can teach this information to their students. | If you need information on local career development models, contact your state department of education and/or your district office. |
| B. Start by providing a definition of career. Summarize the definition by indicating that one's career is a lifelong process that includes all facets of life. Point out that, as defined, one's career encompasses more than one's occupation. Indicate that this definition is accepted by most career development specialists and career educators. | Show transparency I.II.1—"Career"—found on page I-51. |
| II. Overview of Career Education | |
| A. Indicate that career education is the process used to help students learn the career development concepts necessary to make informed career choices based upon their knowledge of self, the world of work, career preparation, and decision making. | |
| B. Mention that career development activities are needed because students cannot make meaningful career choices based on isolated facts. Indicate that the young girl in the transparency was making a career choice based on one small piece of information. | Show the four transparencies, I.II.2-I.II.5—"I've Made a Decision"—found on pages I-53 through I-59. |
| C. Present the graphic of a career development model. The model used in this learning experience is from *K-12 Guide for Integrating Career Development into Local Curriculum* (Drier, 1972). (Use your state or local model if it is available.) | Show transparency I.II.6—"Career Development Model"—found on page I-61. |
| 1. The center of the model represents the person who has knowledge about self and a vocational identity. | |
| 2. In order to have an accurate vocational identity, a person must have knowledge about (1) self, the world of work, and career planning and preparation; and (2) how these components interrelate. | |

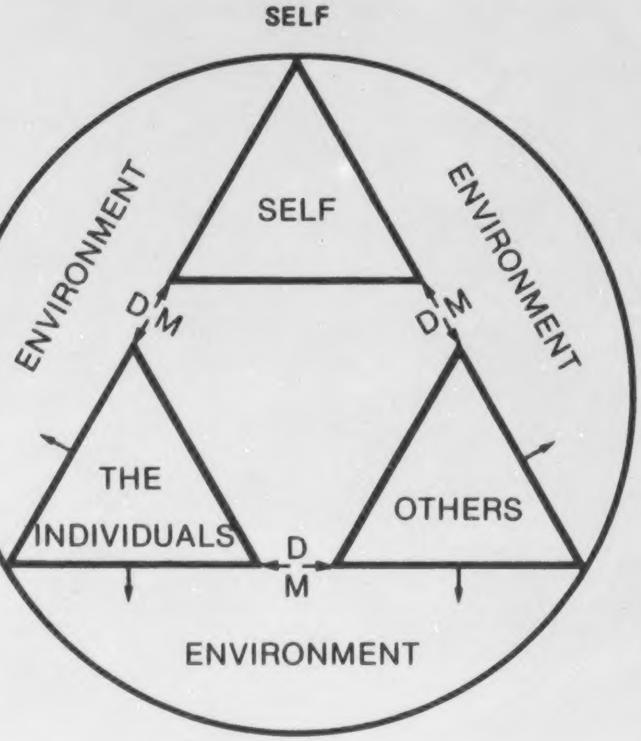
| Instructor's Outline | Notes |
|---|---|
| 3. Using this knowledge, an individual needs to make decisions to determine a vocational identity. | |
| III. Career Development and Self | |
| A. Indicate that learning about self is an important part of the career development process. | **Show transparency I.II.7—"Self"—found on page I-63.** |
| 1. As the transparency indicates, individuals need to understand how they perceive themselves (SELF in the transparency) in relationship to various factors. They should be aware of how their individual characteristics (THE INDIVIDUAL) and their relationships with others (OTHERS) impact upon their self-concept. Their environment is a continual backdrop for their perceptions and decisions (DM). | |
| 2. Individuals' self-perception becomes their internal frame of reference. When they react to the environment, they are doing so based upon their perceptions of themselves. | |
| B. List (on the board or paper) some of the items people must know or consider about themselves in order to become fully functioning members of society. | |
| • Aptitudes | |
| • Skills | |
| • Interests | |
| • Personal strengths | |
| • Personal limitations | |
| • Social relationships | |
| • Coping strategies | |
| C. Indicate that the handout "Self" lists some major career development competencies students should have attained by the completion of different grade levels. | **Distribute handout titled "Self" found on page I-47.** |

| Instructor's Outline | Notes |
|---|---|
| D. Summarize by indicating that a good career education effort helps students develop a realistic and positive self-concept. | If you are using your state's or district's career development model, present competencies, concepts, and/or goals related to self-understanding. |
| IV. Career Development and World of Work | |
| A. Suggest that work should be perceived as an integral part of self-expression and self-realization. | Show transparency I.11.8—"World of Work"—found on page I-65. |
| 1. Students should understand the conditions and benefits of specific occupations (WORK CONDITIONS and WORK BENEFITS AND RESTRICTIONS on the transparency). | |
| 2. Students need to know about the economic conditions and how the economy influences not only one's food, shelter, and clothing, but also one's educational setting, occupational life, leisure, and personal time (ECONOMIC factor on the transparency). | |
| 3. Technological changes affect labor force needs by creating new jobs, changing existing jobs, and discontinuing other jobs (CHANGE AND ITS EFFECTS factor on the transparency). | |
| 4. Individuals need to see the relationship of a job to a family of jobs within which there can be movement (STRUCTURE on the transparency). | |
| 5. Work should be viewed as an opportunity for self-expression, growth, and development (SOCIAL and PSYCHOLOGICAL factors on the transparency). | |
| B. Indicate that the handout "World of Work" contains some additional career development competencies students should have. | Distribute handout titled "World of Work" found on page I-48.<br>If you are using your state's or district's career development model, present competencies, concepts, and/or goals related to world-of-work understanding. |

| Instructor's Outline | Notes |
|---|---|
| C. Summarize by mentioning that an accurate perception of the world of work is a necessary aspect of career development. | |
| V. Career Planning and Decision Making | |
| A. Suggest that career planning is an informational and decision-making process. | Show transparency I.II.9—"Career Planning and Decision Making"—found on page I-67. |
| 1. Individuals need to learn the skills necessary to gather, organize, and evaluate information for decision making (INFORMATION GATHERING on the transparency). | |
| 2. Planning needs to occur in all aspects of one's life—educational, occupational, and personal—requiring continuous decision making (EDUCATION AND TRAINING on the transparency). | |
| 3. The influences of family, peers, and the community are great when an individual makes a career decision. These influences should be weighed carefully (FAMILY, PEERS, COMMUNITY on the transparency). | |
| B. Indicate that the handout "Career Planning and Decision Making" contains related career development competencies. | Distribute handout titled "Career Planning and Decision Making" found on page I-49.<br>If you are using your state's or district's career development model, present competencies, concepts, and/or goals related to career decision making. |
| VI. Summary of Model | |
| A. Indicate that the model just presented is one of many. The competencies and concepts can be configured in different ways. The important thing to remember is that career development concepts and competencies can and should be taught to students. | |

| Instructor's Outline | Notes |
|---|---|
| VII. Career Development Concepts and the Curriculum | |
| A. Divide participants into small groups by grade level. With the three handouts listing the career development competencies and the handout listing sample activities, have the groups discuss how they could teach the concepts for their grade levels. | Distribute handout "Sample Activities" found on page I-50. |
| B. Ask the groups to present their ideas. | |
| VIII. Summary | |
| A. Indicate that this learning experience was designed to give an overview of career development concepts. | Have participants complete the post-workshop portion of the "Competency Opinionnaire" on page I-71, and the "Workshop Effectiveness" form on page I-72, if this module ends your training session. |
| B. Emphasize that other modules will focus on more specific occupational information and its infusion into the curriculum. | |

**HANDOUT**



SELF—How individuals perceive themselves in relation to their individual characteristics and their relations with others within the intervening environment they have.

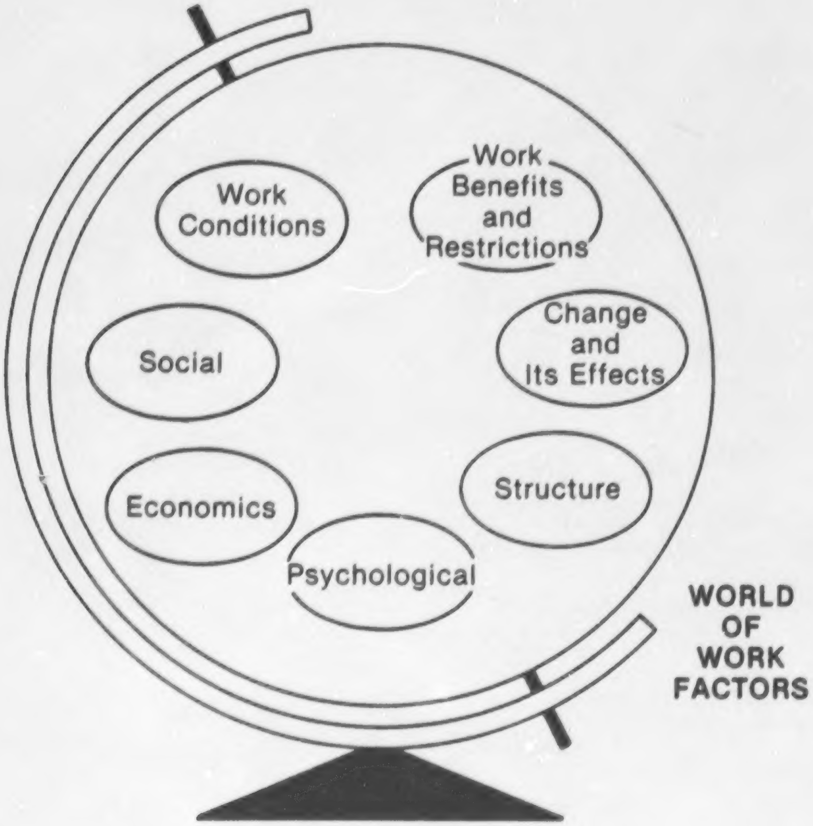
The following are suggested competencies students should possess in relation to the components of the above model.

| Grade | Self | Individual Characteristics | Others | Environment |
|---|---|---|---|---|
| K-3 | Be aware of possible disagreement of his/her perceptions and those of others. | Begin to be aware of his/her abilities. | Be able to differentiate self from others. | Be aware of his/her environment. |
| 4-6 | Begin to develop an understanding of those disagreements that exist. | Begin to explore his/her abilities. | Describe how he/she resembles and differs from others. | Explore the environment. |
| 7-9 | Attempt to eliminate discrepancies between own and others' perceptions of him/herself. | Relate his/her abilities to career planning. | Understand why people are unique. | Relate the self to the environment. |
| 10-12 | Attempt to bring together discrepancies between real and perceived self. | Formulate career expectations that are consistent with abilities. | Accept uniqueness of individuals (including self). | Reality test his/her role in the environment. |

SOURCE: *K-12 Guide for Integrating Career Development into Local Curriculum* (Drier, 1973).

**HANDOUT**

# WORLD OF WORK


Work Conditions
Work Benefits and Restrictions
Social
Change and Its Effects
Economics
Structure
Psychological
WORLD OF WORK FACTORS

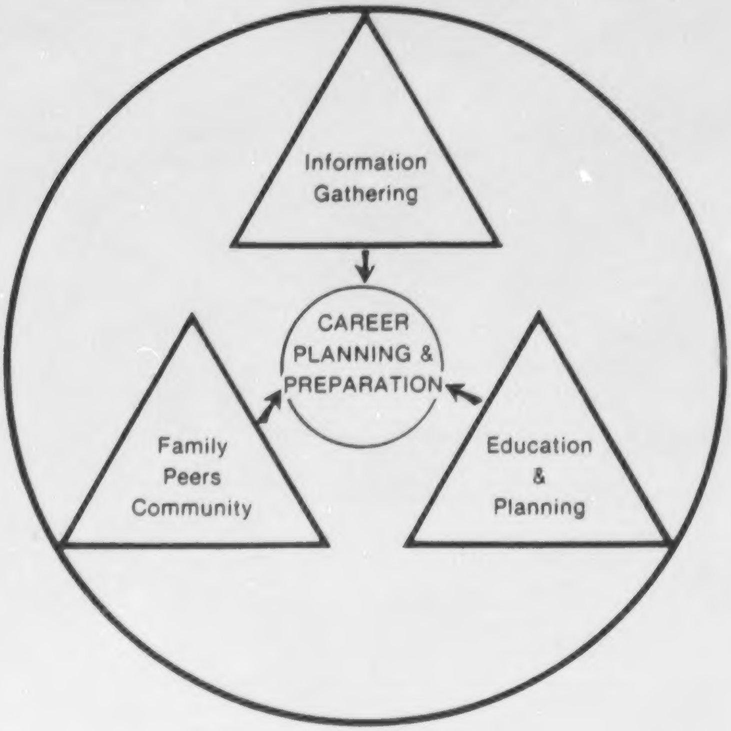
The following are suggested competencies students should possess in relation to world-of-work understanding.

| Grade | Nature of Work | Nature of Occupations | Work Values | Change and Effects |
|---|---|---|---|---|
| K-3 | Develop an awareness that work exists for a purpose. | Develop an awareness that occupations differ. | Develop an awareness that individuals work to meet needs. | Develop an awareness that change affects work. |
| 4-6 | Develop an understanding of purposes of work. | Develop an understanding of clusters of occupations. | Develop an understanding of how work meets needs. | Develop an understanding that change is continuous. |
| 7-9 | Explore, rank, and value purposes of work. | Explore occupations within clusters. | Explore the relationship between work and individual needs. | Experience (through simulation) change. |
| 10-12 | Affirm own purposes for work. | Make tentative occupational choice. | Identify tentative work life style. | Provide for changes in life style. |

SOURCE: *K-12 Guide for Integrating Career Development into Local Curriculum* (Drier, 1973).

**HANDOUT**

## CAREER PLANNING AND DECISION MAKING



The following are suggested competencies students should possess in relation to the above model.

| Grade | Information Gathering | Family | Peers | Community | Education and Training |
|---|---|---|---|---|---|
| K-3 | Be aware that information on the world of work is available as well as where to obtain it. | Be aware that one's family plays a critical role in structuring values and attitude towards one's career plans. | Be aware that one's friends influence the individual's attitudes and values toward the work world. | Be aware that the community may have impinging environmental elements that could affect career choice. | Be aware that different workers need varying degrees of educational preparation for success. |
| 4-6 | Be aware of a system for the collection and use of occupational information. | Realize what family influences are being applied (positive or negative). | Understand what friends are having an impact on the individual's decision making (reasons). | Begin to identify some of the elements in one's environment that are having impact on one's decision making. | Realize that occupational competency requirements influence the kind and degree of one's educational preparation. |
| 7-9 | Develop occupational research skills and understand present and future employment trends. | Understand the influence one's parents are having on career choice. | Ability to screen positive and negative information offered from friends. | Understand the community influences and prepare to deal with their impact. | Understand the necessity for obtaining employability skills and where to obtain these skills. |
| 10-12 | Identify tentative career objectives based upon accurate and pertinent occupational and self information. | Evaluate the expectation family has for you and how it might affect one's decision. | Realize what individuals can assist one in career planning and preparation. | Recognize that career choice could be influenced by opportunities in one's community. | Know where and how to apply for a job. |

SOURCE: *K-12 Guide for Integrating Career Development into Local Curriculum* (Drier, 1973).

**HANDOUT**

## SAMPLE ACTIVITIES

### Self

| | |
|---|---|
| K-3 | Students develop collages using pictures from magazines that depict people participating in activities that they think they can do. They then discuss the collages with family members. |
| 4-6 | Students write brief compositions on: (1) How I cope with my feelings, (2) How am I special from all others, and (3) How I can best improve myself. |
| 7-9 | Each student lists five careers in which he or she is interested and answers the following questions: (1) Which two would you like best? Why? (2) Which two do you think you are most suited for, considering your knowledge of yourself and your interests? (3) Which two do you feel could offer you success? Why? |
| 10-12 | In small groups, students discuss those personal traits and qualities that are expected by employers. |

### World of Work

| | |
|---|---|
| K-3 | The class brainstorms ideas about why people work. Print a questionnaire with the students' suggested reasons for why people work. (Provide blank spaces on the questionnaire for other reasons.) Have the class distribute the questionnaire to school workers. Tally the results and discuss them. |
| 4-6 | The class produces a mini-newspaper to learn different jobs at a newspaper. Students (1) write comic strips, news stories, and sports stories; (2) lay out and type stories; and (3) print and distribute newspaper. |
| 7-9 | Each student selects an occupation in a given cluster of occupations and develops a speech that explains to the class the various aspects of that occupation. |
| 10-12 | Students write on the topic, "What do you expect to gain from work and what can society expect to gain from your work?" |

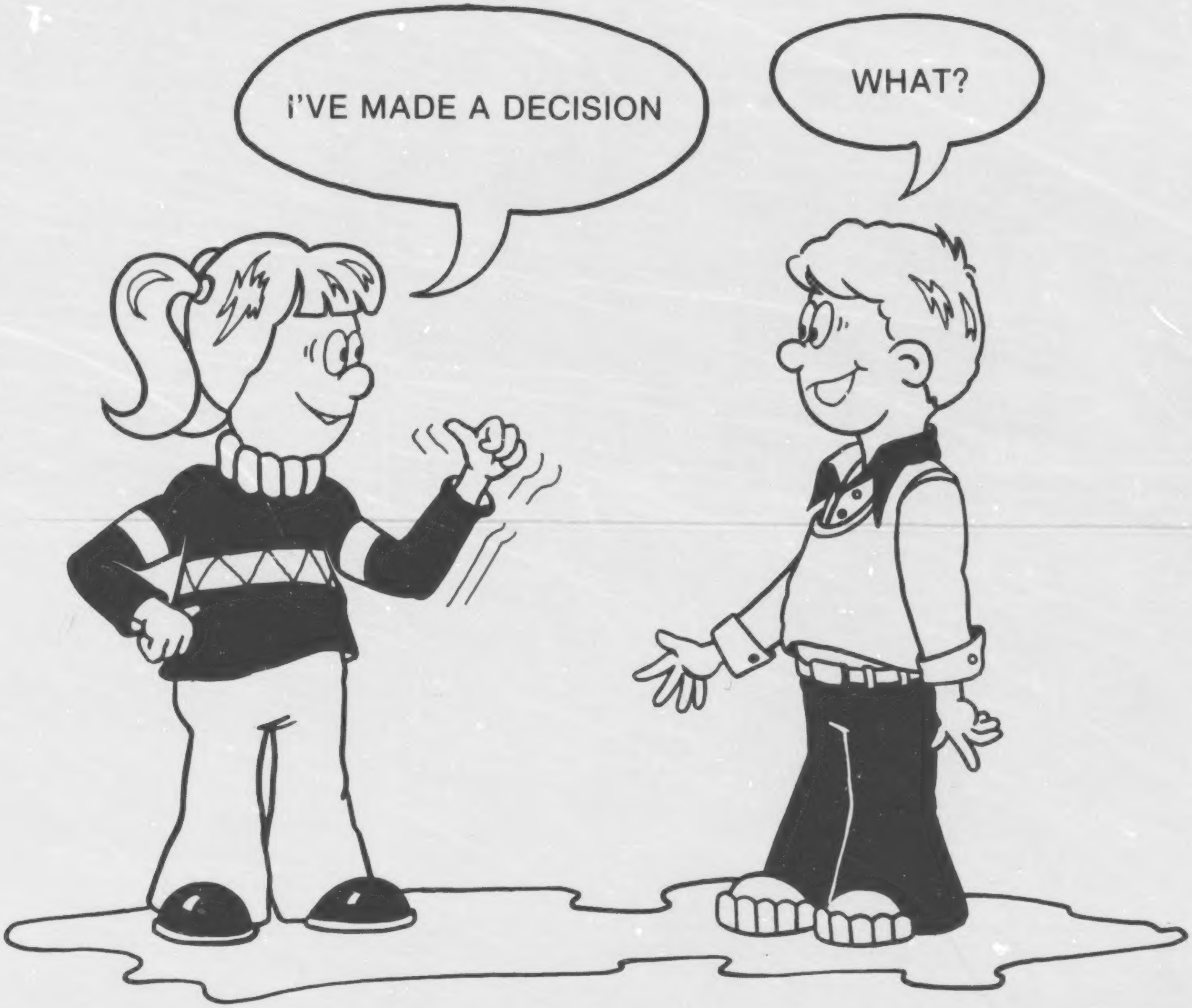
### Career Planning and Decision Making

| | |
|---|---|
| K-3 | Students interview their parents regarding the parents' work and discuss their feelings about the work. |
| 4-6 | Students research the type and amount of education needed for various occupations. |
| 7-9 | Students role-play how they would receive and use positive and negative information from friends. |
| 10-12 | Students participate in mock job interviews with community representatives. |

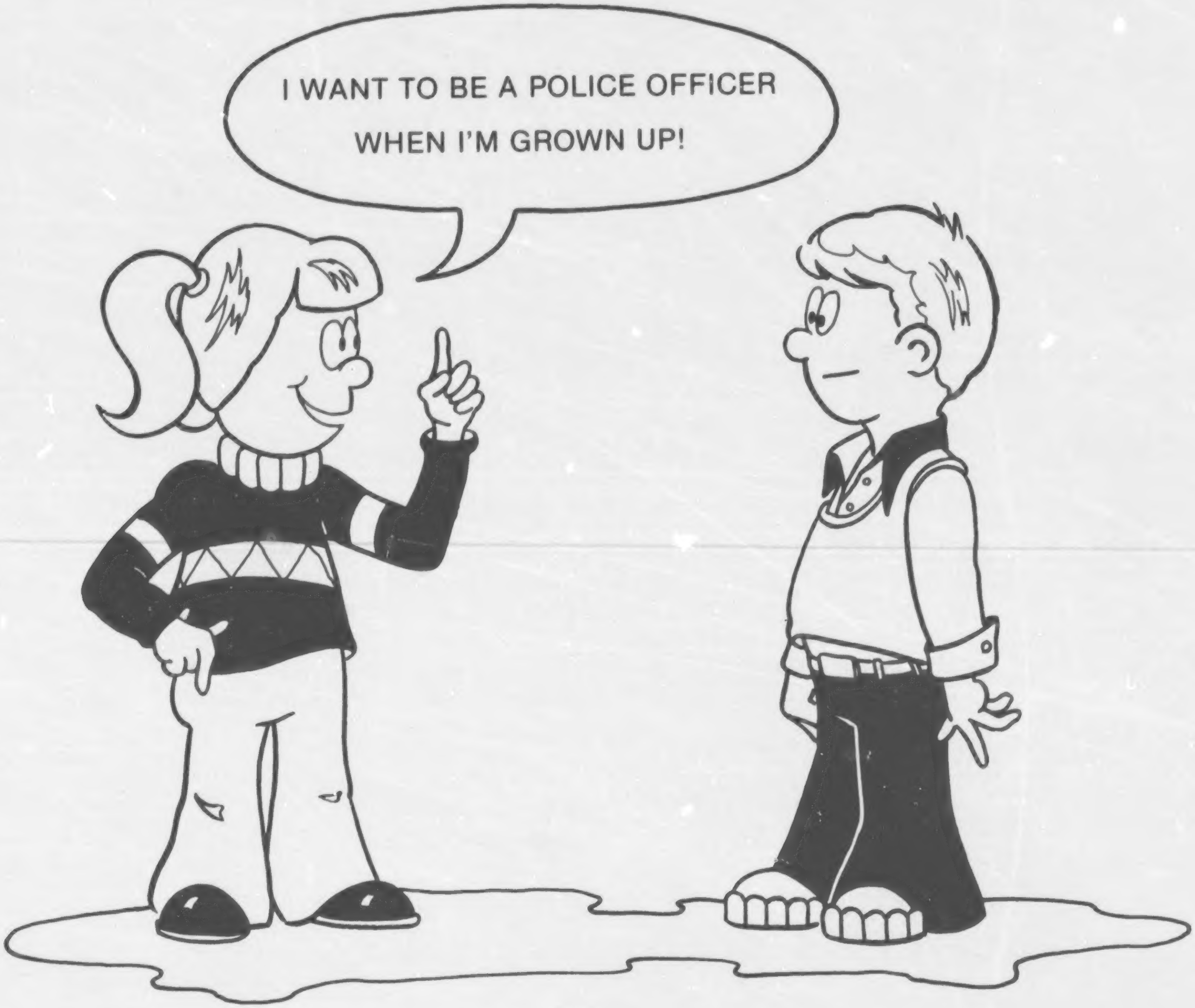
# CAREER

THE PURPOSEFUL PATTERN OF ACTIVITIES THAT CONSTITUTES A LIFETIME OF WORK, LEARNING, LEISURE, SOCIAL RESPONSIBILITY, AND PERSONAL AND SOCIAL DEVELOPMENT.

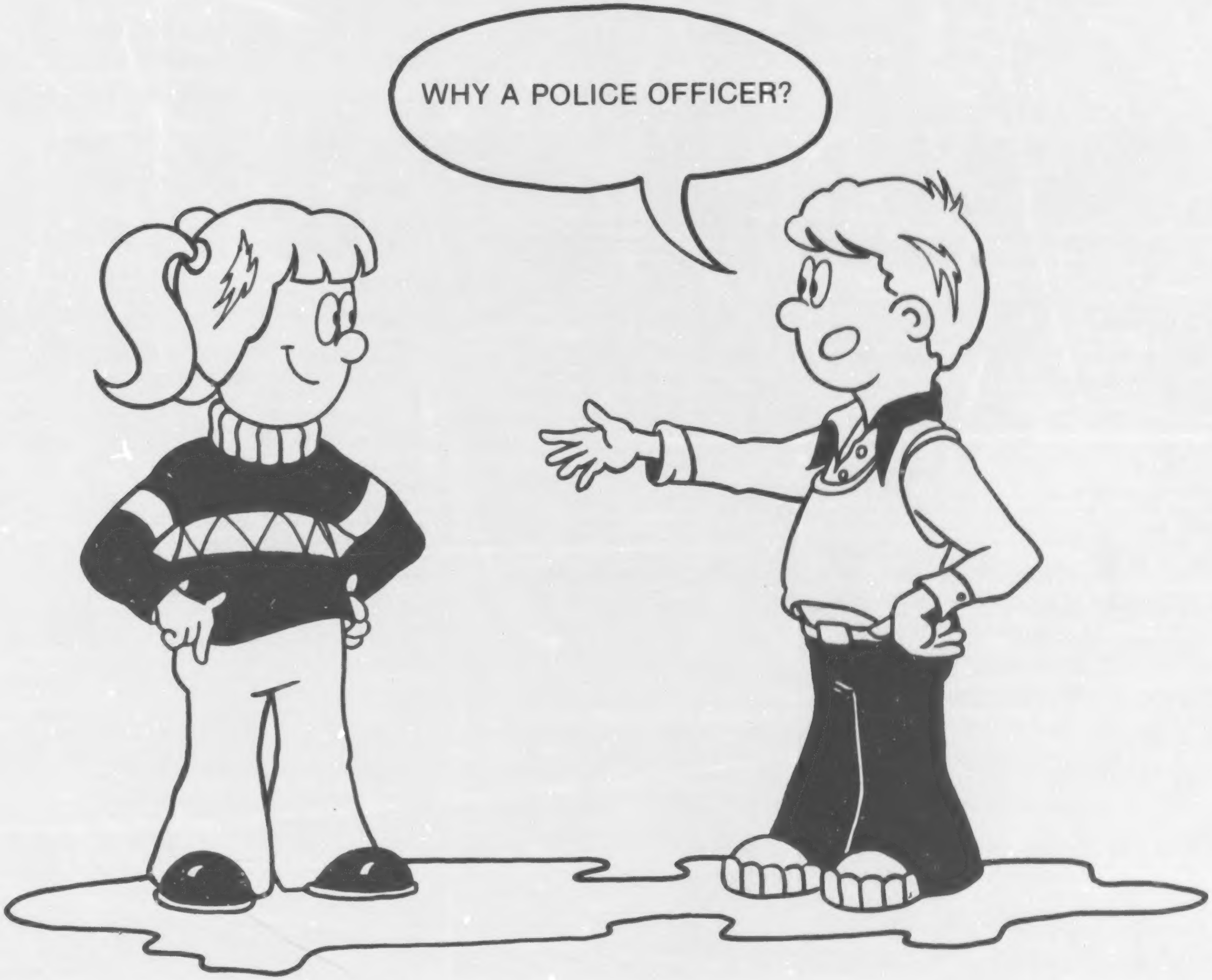
TRANSPARENCY MASTER I.II.1


I'VE MADE A DECISION
WHAT?

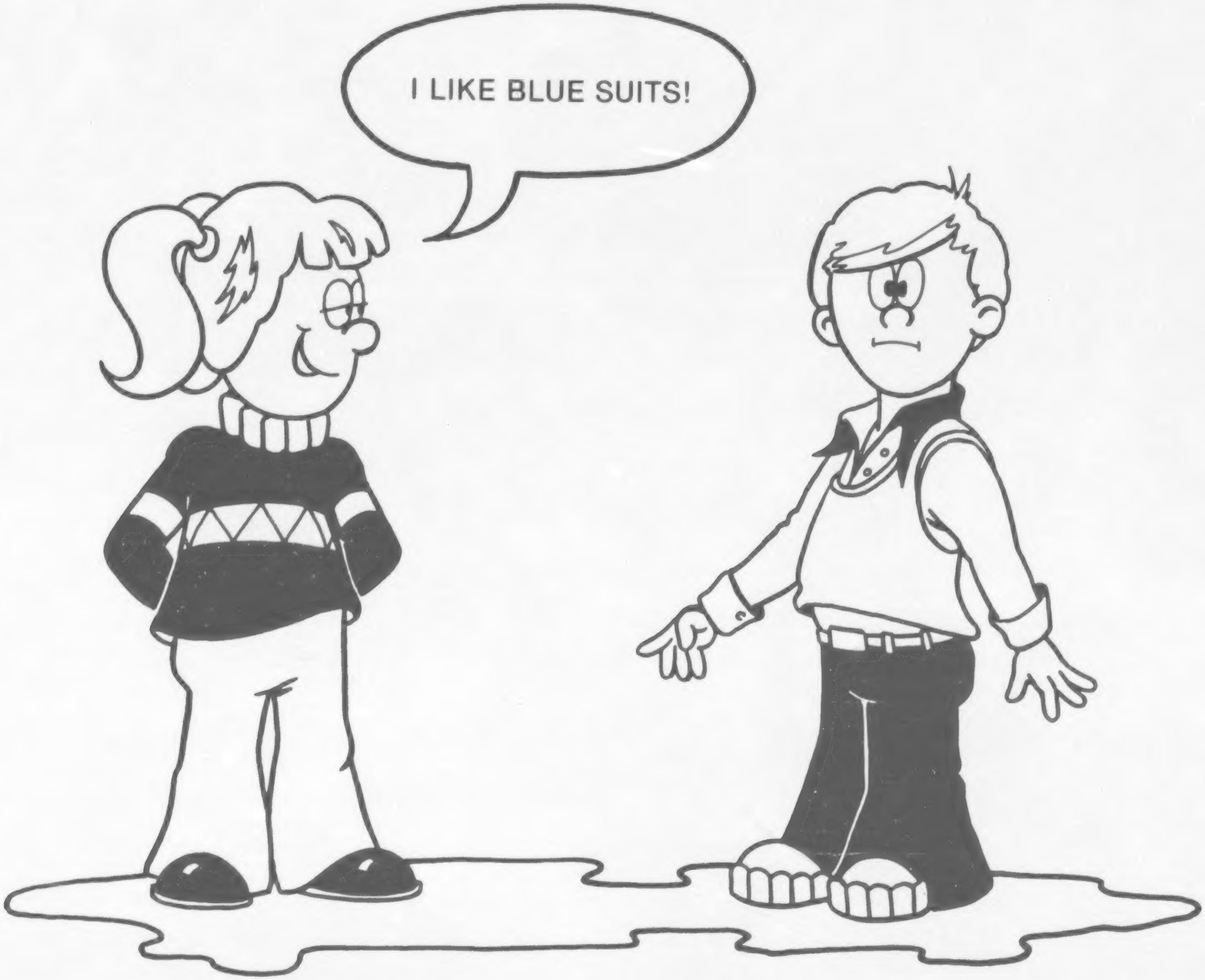
TRANSPARENCY MASTER I.II.2


I WANT TO BE A POLICE OFFICER WHEN I'M GROWN UP!

TRANSPARENCY MASTER I.II.3


WHY A POLICE OFFICER?

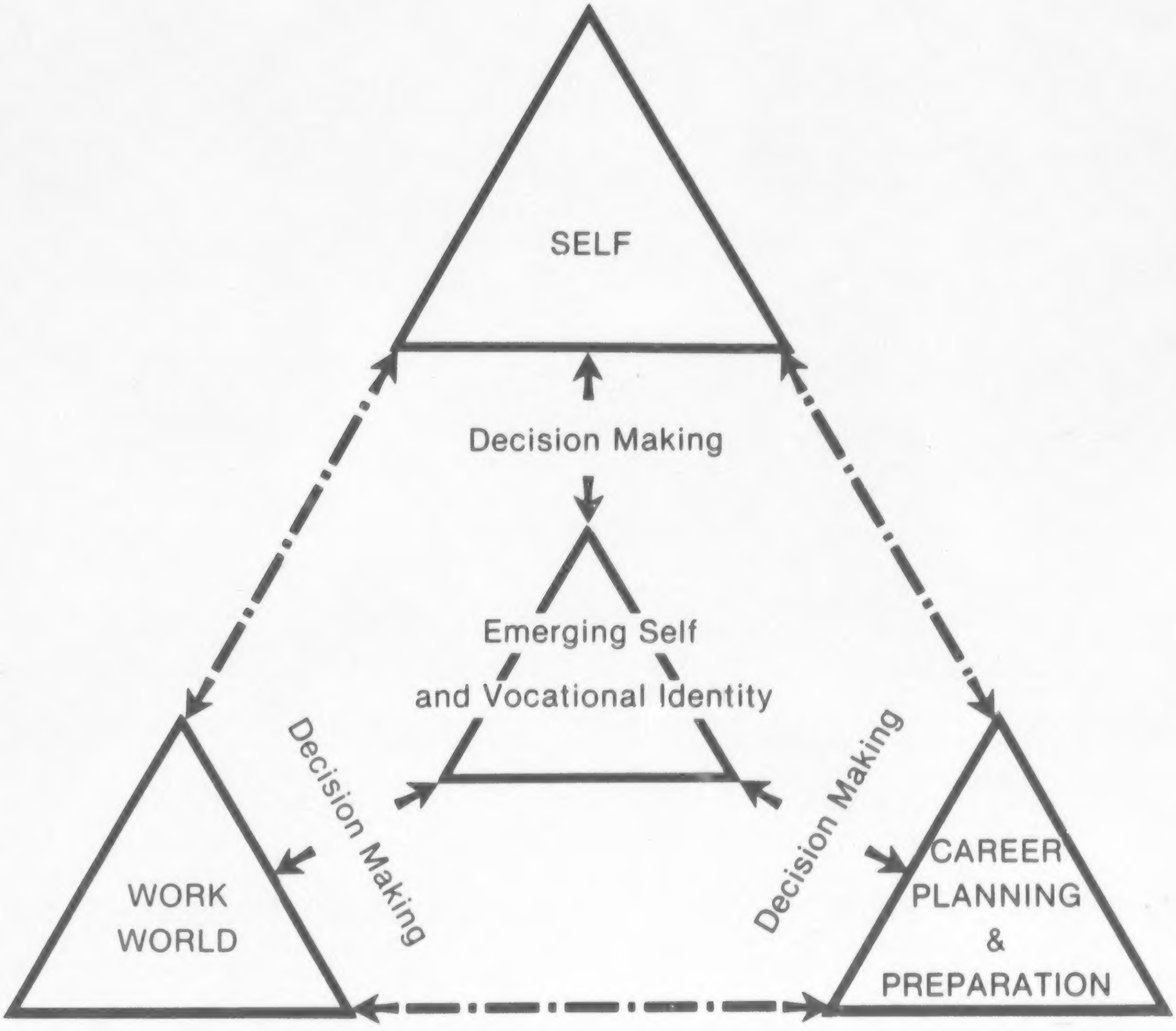
TRANSPARENCY MASTER I.II.4


I LIKE BLUE SUITS!

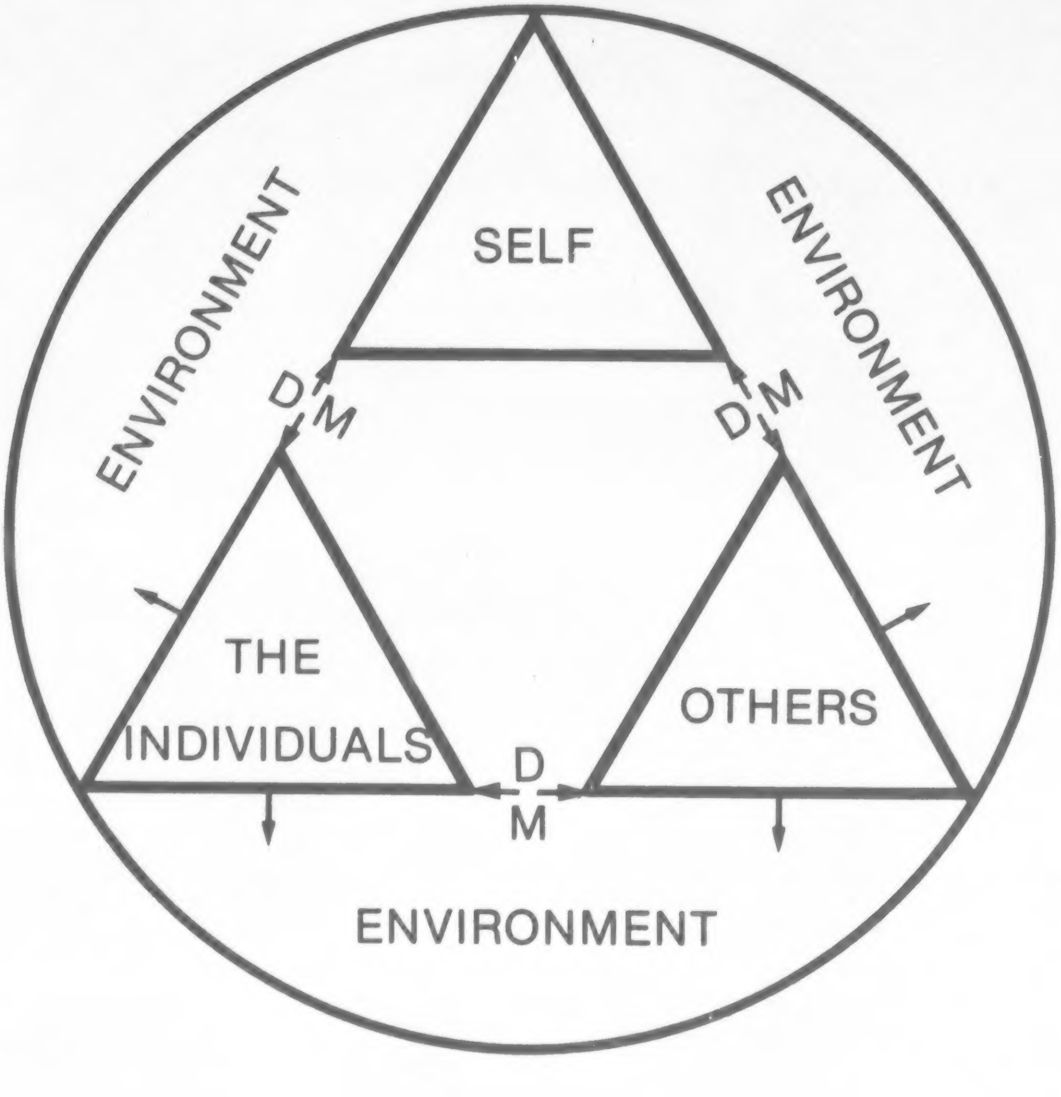
TRANSPARENCY MASTER I.II.5

**TRANSPARENCY MASTER I.II.6**

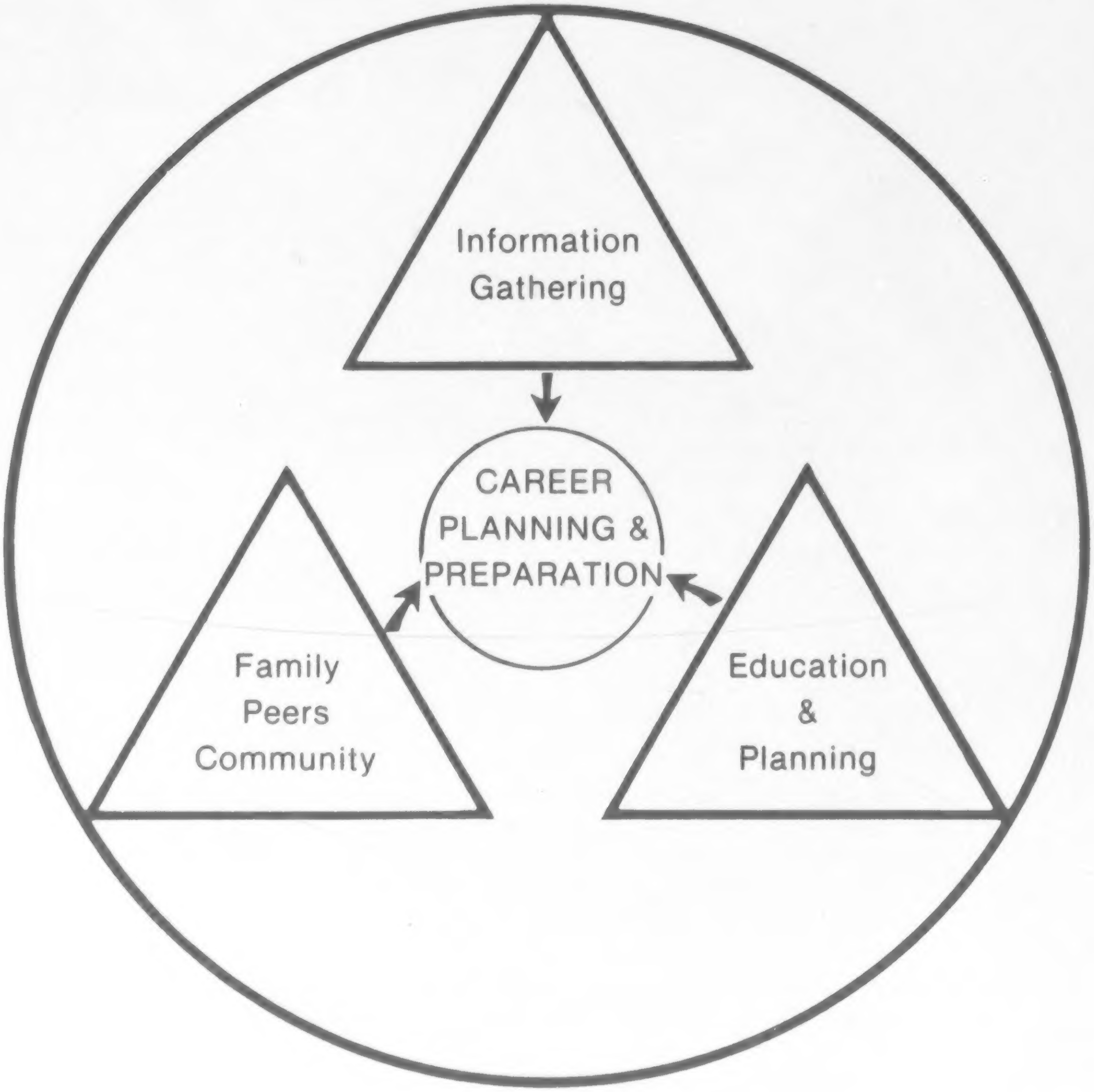
# CAREER DEVELOPMENT MODEL


SELF
Decision Making
Emerging Self
and Vocational Identity
Decision Making
Decision Making
WORK
WORLD
CAREER
PLANNING
&
PREPARATION

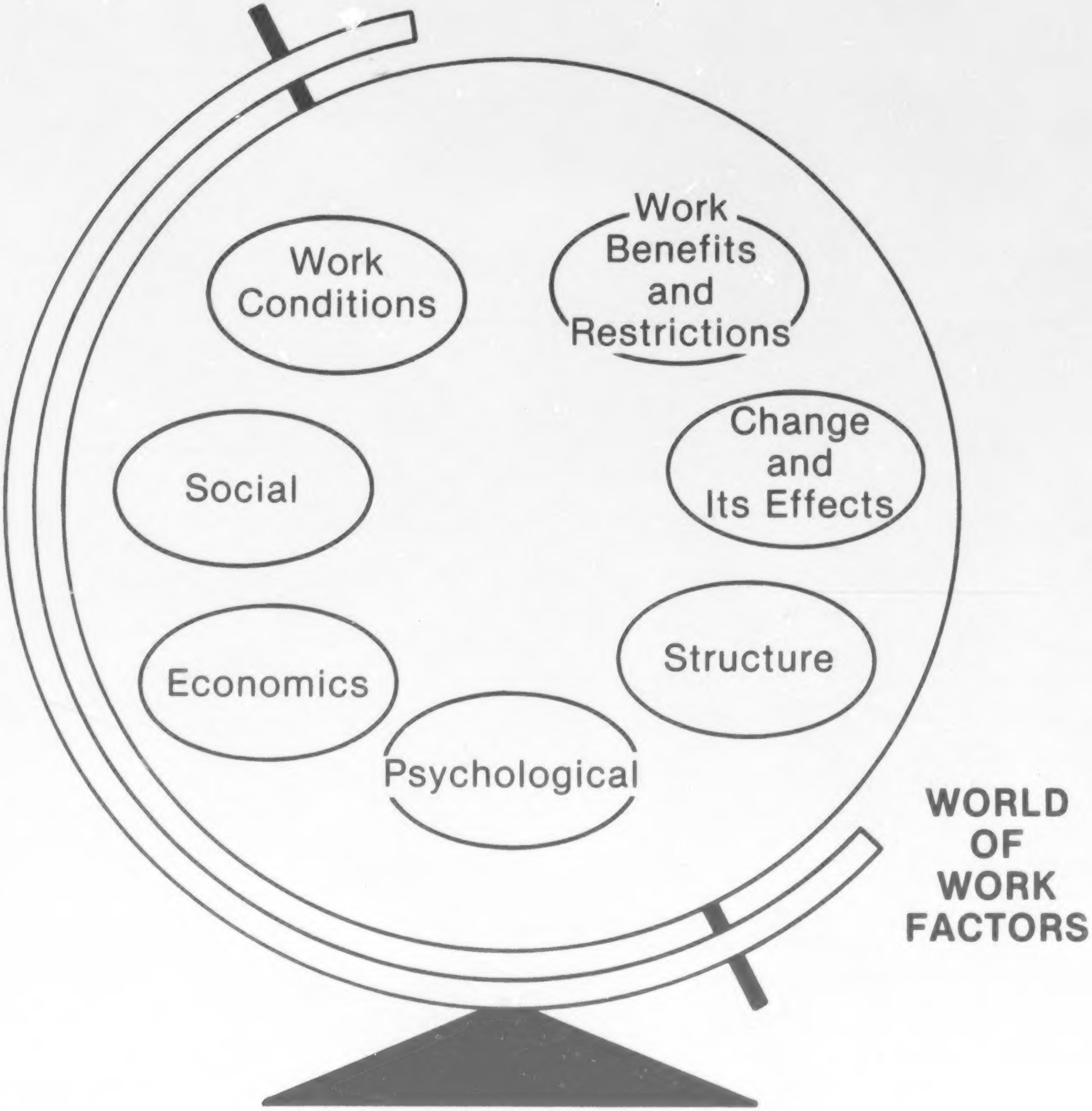
# SELF


ENVIRONMENT
SELF
ENVIRONMENT
D M
D M
THE INDIVIDUALS
OTHERS
D M
ENVIRONMENT

# CAREER PLANNING AND DECISION MAKING


Information
Gathering
CAREER
PLANNING &
PREPARATION
Family
Peers
Community
Education
&
Planning

# WORLD OF WORK


Work Conditions
Work Benefits and Restrictions
Social
Change and Its Effects
Economics
Structure
Psychological
WORLD OF WORK FACTORS

# EVALUATION TECHNIQUES

Prior to the workshop, the instructor should administer the Competency Opinionnaire (pre-workshop) to determine how competent the participants think they are in the topics to be taught. The Opinionnaire (post-workshop) is to be administered again at the end of the workshop to identify the level of competency growth. The instructor also should make specific observations during the workshop activities to measure attainment of the performance objectives. An additional instrument is designed to obtain data on the effectiveness of the workshop techniques.

The following questionnaires relate to this module. When more than one module is being taught, the instructor can develop a comprehensive pre-workshop and post-workshop competency opinionnaire that addresses all of the modules.

## ASSESSING PARTICIPANTS' MASTERY OF PERFORMANCE OBJECTIVES

The instructor's outline suggests activities that require written or verbal responses. The following list of performance indicators will assist you in assessing the quality of the participants' work.

**Module Title:** Basic Principles of Career Development

**Module:** I

| Major Activities | Performance Indicators |
|---|---|
| Learning Experience I | |
| 1. Completing "Work and Workers Quiz" | 1. Did the participants show interest in the results of the quiz? |
| 2. Reacting to the vocational interview | 1. Were participants able to arrive at possible career development principles? |
| 3. Participating in XYZ Choice activity | 1. Did participants take part in this activity? |
| 4. Listing possible career development principles | 1. Did the majority of participants provide input? |
| 5. Relating principles to self | 1. Were most of the participants able to relate career development principles to themselves? |
| Learning Experience II | |
| 1. Identifying ways in which to teach career development concepts | 1. Did each group have a suggestion to offer? |

HANDOUT

## COMPETENCY OPINIONNAIRE

**Directions:** For each statement that follows, assess your present competency. For each competency statement, circle one letter.

---

### YOUR COMPETENCE

Assess your present knowledge or skill in terms of this competency statement:

a. Exceptionally competent: My capabilities are developed sufficiently to teach this competency to other people.

b. Very competent: I possess most of the requirements but can't teach them to other people.

c. Minimally competent: I have few requirements for this competency.

d. Not competent: I cannot perform this competency.

| COMPETENCY STATEMENTS (PRE-WORKSHOP) | COMPETENCE (circle one) |
|---|---|
| 1. Describe how basic career development principles relate to an individual's career development. | a b c d |
| 2. Present career development concepts that relate to your curriculum. | a b c d |

| COMPETENCY STATEMENTS (POST-WORKSHOP) | COMPETENCE (circle one) |
|---|---|
| 1. Describe how basic career development principles relate to an individual's career development. | a b c d |
| 2. Present career development concepts that relate to your curriculum. | a b c d |

HANDOUT

## WORKSHOP EFFECTIVENESS—MODULE I

NAME (Optional)____________________________ TITLE________________________

INSTITUTION______________________________________________________

ADDRESS______________________________________ TELEPHONE____________

1. To what extent were the materials, processes, and organizational aspects of the module successfully used in the presentation and delivery of the module. For those materials, processes, or organizational aspects that you marked as "unsuccessful" or "slightly successful," provide brief comments as to how they might be improved.

| Success | | | | Materials/Processes | Comments |
|---|---|---|---|---|---|
| Unsuccessful | Slightly | Moderately | Very Successful | | |
| | | | | **Materials** | |
| 1 | 2 | 3 | 4 | Handouts/Worksheets<br>Transparencies | |
| | | | | **Processes** | |
| 1 | 2 | 3 | 4 | Lecture Presentations | |
| 1 | 2 | 3 | 4 | Large Group Discussions | |
| 1 | 2 | 3 | 4 | Small Group Sessions | |
| | | | | **Organizational Aspects** | |
| 1 | 2 | 3 | 4 | Module Organization in Terms of the Logical Flow of Ideas | |
| 1 | 2 | 3 | 4 | Important Concepts Reinforced | |
| 1 | 2 | 3 | 4 | The Mix of Activities Helpful in Maintaining Interest | |

2. Indicate those aspects of the module that you liked most and those that you liked least.

| Liked Most | Comments |
|---|---|
| | |

| Liked Least | Comments |
|---|---|
| | |

3. SUGGESTIONS: Please provide suggestions or comments that you have for improving the workshop, workshop materials, and so on.

## RESOURCES

The materials listed below provide additional information on career education goals and concepts.

*K-12 Goal Matrix, Career-Vocational Development Profile: An Educational Planning Resource, Second Draft.* New Jersey State Department of Education, Division of Vocational Education, Trenton, New Jersey, 1980.

This publication proposes the use of a goal-based curriculum to infuse strategies and address goals that meet the career development needs of all students. It serves as an example of how outcomes expressed as goals link, developmentally, from grade K through 14. In the matrix, (1) each major goal is broken out into more definite statements that serve as descriptors of the particular area; (2) each objective is then viewed in terms of grade-level groupings, so that indicators relevant to age-level characteristics or maturation including social are reflected in each one—leading to continuity in the attainment of career competencies; (3) the goals may be addressed in any number of ways, thereby encouraging teachers and counselors to use their own techniques and strategies, their own content, and to adapt each goal or objective. The ten goals of the matrix cover self-awareness, interpersonal skills, decision making, work habits and attitudes, communication and computation skills, career implications of school subject matter, socio-technological-economic-political understanding, career information, marketable skills and adaptability, and leisure preferences and personal responsibilities. The publication also contains a discussion of career education philosophy and the relationship between career education and vocational education, and references.

*A Massachusetts Career Education Staff Development Research Guide.* Elizabeth C.R. Chase and Thomas W. McClain, Eds. Massachusetts State Department of Education, Division of Occupational Education, Boston, Massachusetts, 1980.

Designed as a resource manual for use in conjunction with state and/or local level career education staff development training sessions, this handbook also provides local practitioners with information to develop new or improved career education programs. Chapter 1 overviews the concept, rationale, goals, and objectives of career education in Massachusetts. Each of the next six chapters includes an introduction, examples of successful implementation strategies, and sources for reference materials and may be used separately from the others. Topic areas are career education program planning and implementation, getting staff involved and designing inservice training programs, curriculum infusion, community resource utilization, career education and special needs students, and evaluating career education programs. A list of career development concepts is appended.

## REFERENCES

Drier, Harry N. Jr. and Associates. *K-12 Guide for Integrating Career Development into Local Curriculum*. Worthington, OH: Charles A. Jones Publishing Company, 1973.

Gelatt, H.B.; Varenhorst, Barbara; Carey, Richard; and Miller, Gordon P. *Decisions and Outcomes: A Leaders Guide*. New York: College Entrance Examination Board, 1973.

# INTRODUCTION

The purposes of this module are (1) to help workshop participants understand the value of classroom activities that infuse career development concepts into general subjects and (2) to provide them with a process to use when developing infusion activities.

In the first learning experience, participants arrive at a group working definition of infusion and apply it to specific examples. The second learning experience attempts to help them internalize the idea of infusion and to accept the responsibility for doing it. Many of the activities in these learning experiences are optional, depending upon the group's level of involvement. A process for developing an infused activity is taught in the third learning experience.

**CATEGORY:** Introductory

**KEY CONCEPT:** Infusion is a viable means of delivering life-related subject matter.

**COMPETENCIES:** After completion of this module, workshop participants (teachers of various subjects) will be better able to—

1. define the concept of infusing career development concepts, including its purpose and expected benefits;
2. demonstrate acceptance of the responsibility for infusing career development concepts into their curriculum; and
3. demonstrate an understanding of the process used to develop infusion activities by developing a lesson plan.

## LEARNING EXPERIENCE I

## WHAT IS CAREER DEVELOPMENT INFUSION?

**KEY CONCEPT:** Infusion is a viable means of delivering life-related subject matter.

**COMPETENCY:** Workshop participants will be better able to define infusion of career development concepts and the purpose and expected benefits of infusion.

**PERFORMANCE OBJECTIVES:** Workshop participants will reach consensus on a definition for infusion.

Workshop participants will identify correctly at least 70 percent of the activities presented on the Infusion Worksheet.

---

**OVERVIEW:** This learning experience is an introductory one that helps participants think about the concept of infusion and discusses its purpose and benefits. The group writes (or is given) a definition of infusion, and in small groups, participants may invent slogans that depict the definition. In the final exercise, particpiants complete a worksheet in which they indicate whether an activity is infused or added on.

If you need additional information on the concept of infusion, contact the person(s) in your school district or state department of education who has responsibility for career education. Also, the documents on pages II-41 through II-46 provide background information on the definition of infusion.

---

**INSTRUCTOR'S INFORMATION:**

| | |
|---|---|
| Time | 60 to 90 minutes |
| Workshop Resources | **Worksheet Master**<br>Infusion or Not?—page II-9<br>**Transparency Master**<br>Criteria for Infusion—page II-11 |
| Instructional Methods | Large group presentation<br>Small group work<br>Individual work |

| Instructor's Outline | Notes |
|---|---|
| I. Introduction of the Learning Experience | |
| A. Explain the purpose of the learning experience—to understand the concept of infusion of career development concepts into the curriculum. | Administer the preworkshop portion of Competency Opinionnaire found on page II-37. |
| B. Indicate that the activities within this learning experience include a group discussion of infusion, a slogan contest, and the completion of a worksheet. | If you sense that your participants have had sufficient group activity, omit the group discussion and slogan contest. |
| II. What Is Infusion? | |
| A. Indicate that the purpose of this activity is to arrive at a definition of infusion of career development concepts. | |
| B. (Optional Activity) Ask participants to give their own definitions. | Write responses on the chalkboard or on sheets of paper. |
| C. Review the comments made by the group and combine ideas that are similar. With the information that remains, write a definition upon which you and the group agree. | |
| 1. The definition should include the following points: | Start here if you are omitting the group discussion. |
| • Infusion is a means of "threading" or "weaving" career-related content into existing courses in the curriculum<br>• Infusion is the teaching of subject matter and career content at the same time.<br>• Infused career education is not an add-on or separate course. | |
| 2. An activity is infused if the following criteria are met: | Show transparency II.I.1—"Criteria for Infusion"—found on page II-11. |
| • There is one subject area objective.<br>• There is one career objective.<br>• The activity teaches subject area content and career content at the same time. | |

| Instructor's Outline | Notes |
|---|---|
| D. Discuss the purpose of infusion. The following points should be mentioned: | |
| 1. Infusion (and career education in general) is an attempt to emphasize properly the goal of education as preparation for work. | |
| 2. It is part of the cirruculum, not added on to it. No additional courses or extracurricular activities need to be created. | |
| 3. For many teachers this concept is not new. They have been teaching career-related concepts for years, but have not labeled this teaching "career education." | |
| 4. A basic rationale for the infusion approach is to motivate students to acquire skills, knowledges, and attitudes related to career development while increasing the amount of subject matter they actually learn. | |
| 5. It provides relevance to regular subject matter curriculum. | |
| E. Summarize the discussion and indicate that the benefits of infusion are great. | |
| III. The Slogan Contest (Optional Activity) | |
| A. Indicate that the next activity is to develop slogans that illustrate examples of infusion. | |
| B. Divide the participants into small groups of two to three people. | |
| C. Ask each group to develop a slogan that would convey the idea of infusion. Give them the lead in, "Infusion is like . . . ." (Example, a steel-belted tire or a piece of fabric.) | |
| D. Have each group present its slogan. | Write the slogans on a chalkboard of paper. |
| E. Summarize the activity by indicating that infusion is the linking together of career and academic concepts. | |

| Instructor's Outline | Notes |
|---|---|
| IV. Is It Infused or Not? | |
| A. Indicate again that an infused activity incorporates a career objective into an activity that is also teaching a subject matter activity. An example is using words related to an occupation as spelling words. An add-on is a separate activity unrelated to a subject area. An example is having community members speak at a school assembly. | |
| B. Emphasize that occasionally an add-on activity is necessary and good, but that you do not need add-on activities to convey career concepts. | |
| C. Have the participants complete the "Infusion or Not" worksheet. The participants are to identify which activities are infused into the curriculum and which are not. | Distribute the worksheet—"Infusion or Not?"—found on page II-9. |
| D. Discuss the answers. The correct responses are these: | |
| 1. Infused—students are learning math skills and doing part of the work of a carpet layer. | |
| 2. Add-on—the interest inventory is not associated with an academic subject. | |
| 3. Add-on—the job fair is a special event and not part of the regular curriculum. | |
| 4. Infused—students are learning how to identify the central idea of a reading assignment and at the same time learning about different life-styles. | |
| 5. Infused—students are learning how to expand sentences and are becoming familiar with occupations. | |
| 6. Infused—students are learning a foreign language and learning about the life-style associated with a particular occupation. | |
| 7. Infused—students are improving their artistic skills and thinking about their parents in work and home roles. | |
| 8. Add-on—the field trip is a special event for the class. | |

| Instructor's Outline | Notes |
|---|---|
| 9. Add-on—the counselor's discussion represents an extra activity and is not associated with a subject. | |
| 10. Infused—the students are learning to spell and are learning information related to a specific occupation. | |
| C. Summarize the activity and the learning experience. Infusion of career development concepts is one way of making students better prepared for work without taking time away from learning subject matter concepts and skills. | |

## INFUSION OR NOT?

The following is a listing of career-related activities in which students participate. Indicate whether the activity is infused or is an add-on, placing "I" or "A" on the line beside the activity description.

_____ 1. Sixth-grade students complete math problems in which they figure the amount of carpet needed to cover a living room floor.

_____ 2. Tenth-grade students take an interest inventory and disucss the results in their social studies class.

_____ 3. Local employers participate in a job fair at the high school.

_____ 4. Eleventh-grade students read magazine articles related to life-styles of different occupations and write one-sentence statements of the main idea for each selection.

_____ 5. Third-grade students, orally expand a given sentence (e.g., "the pilot flew") to tell how, when, where, and why.

_____ 6. Advanced French students read a dialogue, in French, about the life-style of a fashion designer.

_____ 7. In their art class, fifth-grade students draw their parents in situations at work and at home.

_____ 8. Second-grade students take a field trip to the local dry cleaners.

_____ 9. The counselor comes into a class and teaches twelfth-grade students how to behave in a job interview.

_____10. Fourth-grade students learn spelling words that relate to accounting.

# CRITERIA FOR INFUSION

- ONE SUBJECT OBJECTIVE
- ONE CAREER OBJECTIVE
- THE TWO OBJECTIVES ARE TAUGHT TOGETHER

TRANSPARENCY MASTER II.I.1

## LEARNING EXPERIENCE II

## EVERYONE SHOULD INFUSE

| | |
|---|---|
| **KEY CONCEPT:** | Infusion is a viable means of delivering life-related subject matter. |
| **COMPETENCY:** | Workshop participants will be better able to demonstrate acceptance of the responsibility for infusing career development concepts into their curricula. |
| **PERFORMANCE OBJECTIVES:** | Workshop participants will list at least three ways infusion of career development concepts can strengthen the content of their curricula and motivate students for learning. |

---

**OVERVIEW:** This learning experience provides workshop participants the opportunity to internalize the concept of infusion. Through a group discussion, participants determine that career information is important to impart to students and that they already have instructional vehicles in place to do this. They then discuss how everyone (K-12) needs to participate in teaching career development. In small groups they determine how career development concepts can be infused into specific grade levels and subject areas.

---

| | | |
|---|---|---|
| **INSTRUCTOR'S INFORMATION:** | Time | 45-60 minutes |
| | Workshop Resources | **Handout Master**<br>Questions on Infusion—page II-17 |
| | Instructional Methods | Large group discussion<br>Small group discussion |

| Instructor's Outline | Notes |
|---|---|
| I. Introduction of Learning Experience | |
| A. Indicate that the purpose of the learning experience is to help participants understand that every teacher can and should infuse career development concepts into the curriculum. | |
| B. Mention that there will be group discussion along with small group work. | If you think your group has had a sufficient amount of group work, you can omit some of the activities. |
| II. What Are Your Responsibilities as a Teacher? | |
| A. (Optional Activity) Ask participants to brainstorm what their teaching responsibilities are. Check the responses that relate to imparting information. | Write responses on the chalkboard or sheet of paper. |
| B. Point out that imparting information is a major responsibility of teachers. Highlight the fact that it is important for students to receive career-related information. | |
| 1. Few people would disagree that a "good teacher" provides students with content they can use in their lives apart from schools. Students can use and need to use career-related information in their lives apart from school. | |
| 2. According to Ken Hoyt (former director of the U.S. Office of Career Education), "We have contended that one of the reasons students go to school is so they can engage in work after leaving the formal educational system. If teachers can show students how the subject matter relates to work that the student may some day choose to do, we have assumed that students may be motivated to learn more subject matter" (Hoyt, n.d.). | |
| III. How Do You Teach Information? (Optional Activity) | |
| A. Ask participants what instructional techniques they use to present information to their students. Examples are lecture, readings, research, simulations, worksheets, and so forth. | Write responses on the chalkboard or on paper. |

| Instructor's Outline | Notes |
|---|---|
| B. Ask participants to indicate which of these techniques could be used in an infused lesson. Check their responses. If they do not indicate all of the listed techniques, check the remainder. | |
| C. Indicate that all instructional techniques used to impart information can be used in infused lessons. Point out that they already are using techniques that can be used to infuse career development concepts into their classroom activities. | Start here if you have omitted the previous portion of this activity. |
| IV. How Can Career Development Be Infused into the Overall Curriculum? | |
| A. Discuss with participants how the information in academic areas is taught in a systematic manner. | |
| 1. At specific grades, students are exposed to different levels of information. For example, in the primary grades, the goals of the language arts curriculum relate to learning the basic rudiments of the English language. At the high school level, a student's knowledge has grown so that the curriculum goals address using the language to develop analytical skills. | |
| 2. Information in a particular subject is taught in a sequential manner so students can build their knowledge based on elementary information. | |
| B. Make the point that career development concepts also need to be taught in a systematic way. | |
| 1. All teachers should teach students career development concepts that relate to their subject areas. | |
| 2. Students should be exposed to different aspects of career-related information based upon their maturity. | Refer to Module I and the career development model. |
| C. Have participants discuss their feelings about infusing career development concepts into their curricula. Use the handout as a guide. Be careful that this does not turn into a grip session. Put a time limit on the decision of no more than 15 minutes. | Distribute handout—"Questions on Infusion"—found on page II-17. |

| Instructor's Outline | Notes |
|---|---|
| V. What Can You Infuse? | |
| A. Divide participants into small homogeneous (subject and grade level) groups (no more than four members per group). | |
| B. Ask each group to list at least three places its members can infuse career development concepts into their classroom activities. | Provide sample career development competencies from Module I if participants do not already have them. |
| 1. For example, a primary-level teacher of social studies could infuse information on goods and service industries into a unit on the economy. | |
| 2. A high school Engligh teacher could infuse discussion of self-attributes and abilities into reviews of movies. | |
| 3. A middle school teacher could infuse discussion of the effect of technological change into a unit on computers. | |
| C. Have groups report on suggested activities. | |
| VI. Wrap-up of Activity | |
| A. Indicate that a positive aspect of teaching is motivating students to learn and that this learning can take place through career education. | |
| B. Indicate that in the next learning experience they will learn a process for developing infused lessons. | |

# QUESTIONS ABOUT INFUSION

- **Who is responsible for infusion?**

  It is a collaborative team effort—all teachers are responsible.

- **Where does infusion fit into what I am teaching?**

  Infusion fits where it can illustrate and enhance the meaningfulness of the instructional content.

- **How many minutes a day should be spent on infused activities?**

  There is no set time limit. The career concepts fit within the curriculum wherever they apply as part of the sequence of content. Career education does not have to happen every single day or every minute, but only where applicable.

- **Do I include information about all jobs?**

  It is impossible for every teacher to cover the multitude of occupations available. A program theme structure per grade level and/or subject area often helps to provide a wide exposure to the world of work.

- **Do I include infusion activities in every subject?**

  Career development is a thread that weaves through all subject areas. The amount of inclusion in each subject area depends on the applicability of instructional content. A comprehensive plan can insure that career education does not overburden any one subject.

- **What needs to be eliminated from the curriculum in order to infuse career development concepts?**

  Nothing needs to be dropped. It is not an either/or situation. The teacher simply matches a career objective with an applicable instructional objective and plans an activity that accomplishes both at the same time. Career education provides the motivation for learning subject content skills.

- **What exactly should I do in my classroom?**

  A teacher who understands the concept of career development and its importance as one of several basic goals of education can infuse career-related student outcomes as part of the teaching/learning process. The process of infusion into the everyday curriculum becomes a planning process involving a few steps:

  - Gaining awareness of the student career outcomes or themes for the grade level or subject area
  - Gaining awareness of the instructional content and objective for each subject
  - Matching an instructional objective with a career outcome
  - Planning an activity that combines the instructional and career objective
  - Evaluating the activity

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SOURCE: Adapted from *Career Education and the Teaching/Learning Process* (Preli, n.d.)

## LEARNING EXPERIENCE III

## HOW TO INFUSE

**KEY CONCEPT:** Infusion is a viable means of delivering life-related subject matter.

**COMPETENCY:** Workshop participants will be better able to demonstrate an understanding of the process used to develop infusion activities by developing a lesson plan.

**PERFORMANCE OBJECTIVES:** Workshop participants will develop a lesson plan that contains career develop concepts and subject matter concepts related to the grade and subjects they teach.

---

**OVERVIEW:** Through this learning experience, participants learn a process for developing an infused activity. In the initial exercise the instructor teaches the same lesson twice; first without infusion and then as an infused lesson. The instructor then describes the process of developing an infused lesson. In small groups, participants develop infused lesson plans using the described process.

If you need additional resources relating to development of infused lessons, contact the career education personnel at your state department of education, your intermediate educational agency, or school district. Also the resource materials described on pages II-41 through II-46 process and formats.

---

| | | |
|---|---|---|
| **INSTRUCTOR'S INFORMATION:** | Time | 60 to 90 minutes |
| | Workshop Resources | **Handout Masters**<br>Noninfused Lesson—page II-23<br>Infused Lesson—page II-24<br>Sample Lesson Plan—page II-25<br>Lesson Plan Format—page II-26<br>Self—page II-27<br>World of Work—page II-28<br>Career Planning and Decision Making—page II-29<br><br>**Transparency Masters**<br>Planning for Infusion—page II-31<br>Lesson Plan Format—page II-33 |
| | Instructional Methods | Large group presentation<br>Small group activity |

| Instructor's Outline | Notes |
|---|---|
| I. Introduction of Learning Experience | |
| A. Indicate the purpose of the learning experience—to learn a process for developing infusion activities. | |
| B. Mention that after a presentation on development of infused activities, participants will develop their own activities. | |
| II. Infused versus Noninfused | |
| A. Simulate teaching the activity contained in the handout, "Noninfused Lesson." You are the teacher and the workshop participants are the students. | Distribute handouts "Noninfused Lesson" on page II-23. |
| B. Simulate teaching the activity contained in the handout, "Infused Lesson." | If you have other examples of noninfused and infused lessons to share, use them. |
| C. Compare the two lessons with the participants. Make the following points: | |
| 1. They teach the same language arts concept. | |
| 2. The second one incorporates career information without taking time away from the teaching of a language arts skill. | |
| D. Indicate that the sample lessons are simplistic but show an obvious use of infusion. | |
| III. Process of Development of Activities | |
| A. Indicate that participants will now learn a process and a format for developing infusion activities. Mention that there are various formats that can be used, and that they may want to adapt what is presented to best fit their needs. | If your school or district has an established format, use it. |
| B. Indicate that the process of infusion requires a few planning steps: | Show Transparence II.III.1—"Planning for Infusion"—found on page II-31. |
| 1. Be aware of student career development outcomes for your grade level or subject area. (Refer to your district's or state's career development model.) | |

| Instructor's Outline | Notes |
|---|---|
| 2. Be aware of the instructional content and objectives for your subject area(s). | |
| 3. Match an instructional objective with a career development outcome. | |
| 4. Plan an activity that combines the instructional objective and career objective. | |
| 5. Determine a means for evaluating the activity. | |
| C. Present the format on the transparency and handout as one way of organizing information for an infused lesson plan. | Show transparency III.III.2—"Lesson Plan Format"— found on page II-33. |
| 1. Title, grade level, and subject area are descriptive information. | If you are using a different format, explain its components. |
| 2. Lesson Goal reflects a career development goal and a subject goal. Goals are general statements of what is expected of the students after completion of the lesson. | Distribute handout "Sample Lesson Plan" found on page II-25. |
| 3. Lesson Objectives are statements of the behaviors students will possess at the completion of the lesson. | |
| 4. Time Requirement presents the amount of time it takes to conduct the lesson. | |
| 5. Description of Activity outlines the events that occur with the students. | |
| 6. Resources lists the various material, people, and space/equipment requirements beyond the normal classroom and teachers associated with the lesson. | |
| 7. Evaluation describes how the teacher will determine the effectiveness of the lesson. | |
| D. Discuss questions or alternatives participants may have for the above format. | |
| IV. Small Group Development | |
| A. Divide participants into small homogenous groups (two to three persons per group). | |

| Instructor's Outline | Notes |
|---|---|
| B. Ask each group to develop an infusion activity using the following:<br>1. The list of career development competencies presented in the handouts | Distribute handouts titled "Self," "World of Work," "Career Planning and Decision Making," and "Infusion Format" found on pages II-27 through II-29. |
| 2. Subject matter goals and objectives appropriate to their grade levels and subject areas<br>3. The format provided on the handout | Indicate that they can use the same ideas provided in Learning Experience II. The major purpose of this activity is to familiarize participants with the format. |
| C. Have each small group report on its activity. | |
| D. Discuss problems or concerns that arose as the groups developed their activities. | |
| V. Summary of Learning Experience and Module | |
| A. Indicate that the learning experience and the entire module have been an attempt to teach the idea of infusion. | |
| B. Mention that in Modules IV through VI, they will learn various career-related concepts and will have opportunities to develop related activities to use in their classrooms. | Administer postworkshop portion of the Competency Opinionnaire found on page II-37 and the Workshop Effectiveness form, page II-38 (if appropriate). |

## NONINFUSED LESSON

Subject — Language Arts Grade Level — 8th

Objective — Given sentences with words and meanings, the students will define the meaning of the underlined word by using the context of the sentence.

Activity — Give students a worksheet containing sentences that include a noun with a descriptive phrase for that noun. The students will write a definition of the underlined noun.

## WORKSHEET

Directions — Write a brief definition of the underlined noun using the words in the sentence as clues.

1. Sue used the protractor to measure the angle between two lines.

_______________________________________________

2. Julie looked through the porthole to see a view of the shoreline from the ship.

_______________________________________________

3. Sam watched the Hawaiian dancers do the hula.

_______________________________________________

## INFUSED LESSON

Subject – Language Arts Grade Level – 8th

Objective – Given sentences with words and meanings, the student will underline the correct meaning by using the context of the sentence.

Activity – Give students a worksheet containing sentences that include a job title with a descriptive phrase of that job. The students will write a definition of the underlined job title.

## WORKSHEET

Directions – Write a brief description of the underlined job title, using the words in the sentences as clues.

1. The cartographer drew the map carefully.

______________________________________________

2. Leonard's uncle, an archeologist, classified the fossils as coming from the Paleozoic Era.

______________________________________________

3. Mary's mother felt that Mary should have her teeth straightened, so she sent her to an orthodontist.

______________________________________________

## SAMPLE LESSON PLAN

**Title:** A Move to the Mid-Atlantic States

**Grade Level:** 4 **Subject Area:** Social Studies

**Lesson Goal:** Students will relate life-styles and occupations in a section of the country to resources found in that part of the country.

**Lesson Objective(s):** (1) Students will list at least three major types of work available in the Northeast. (2) Students will write an essay comparing life-styles in the Northeast with those in the Midwest.

**Time Requirement:** 3-5 hours of instruction time.

**Description of Activity:** (1) Show a filmstrip depicting people and life in the Northeast. (2) Discuss the relationship of resources in the Northeast to the availability and variety of jobs and relate to individual life-styles. (3) Based on the filmstrips, have students write an essay describing the kinds of work people might perform in the Northeast and what their life-styles are like.

**Resources:**

Materials: Text, *Exploring the Mid-Atlantic States*; Filmstrip, *Northeastern United States*; road atlas; travel guide; city newspapers; *Occupational Outlook Handbook*

People: Ms. Mann, travel agent who has lived in Portland, Maine

Space/Equipment: Filmstrip projector

**Evaluation:** At least 75 percent of the students should accurately describe three occupations found in the Northeast and discuss the related life-styles. Accuracy should be based upon information presented in the material resources.

# LESSON PLAN FORMAT

**Title:**

**Grade Level:** **Subject Area:**

**Lesson Goal:**

**Lesson Objective(s):**

**Time Requirement:**

**Description of Activity:**

**Resources:**

Materials:

People:

Space/Equipment:

**Evaluation:**

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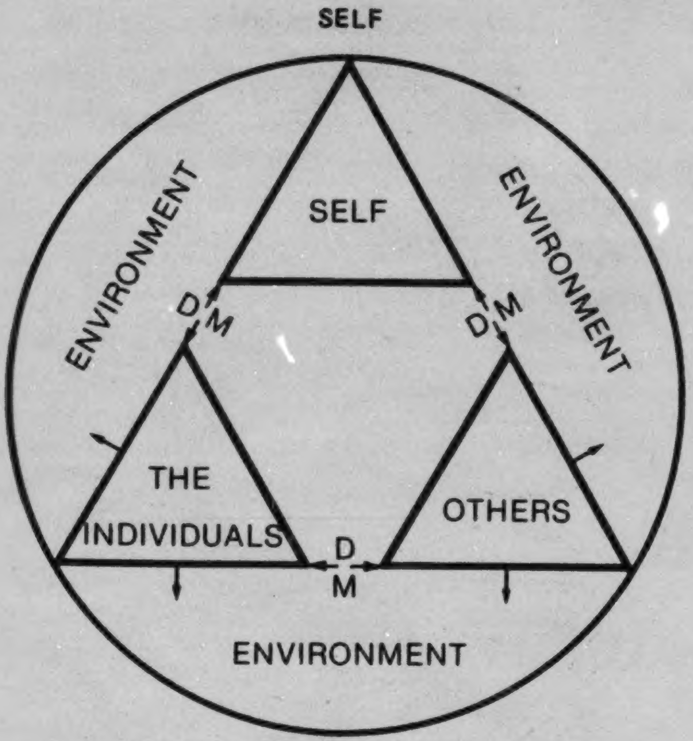
**HANDOUT**



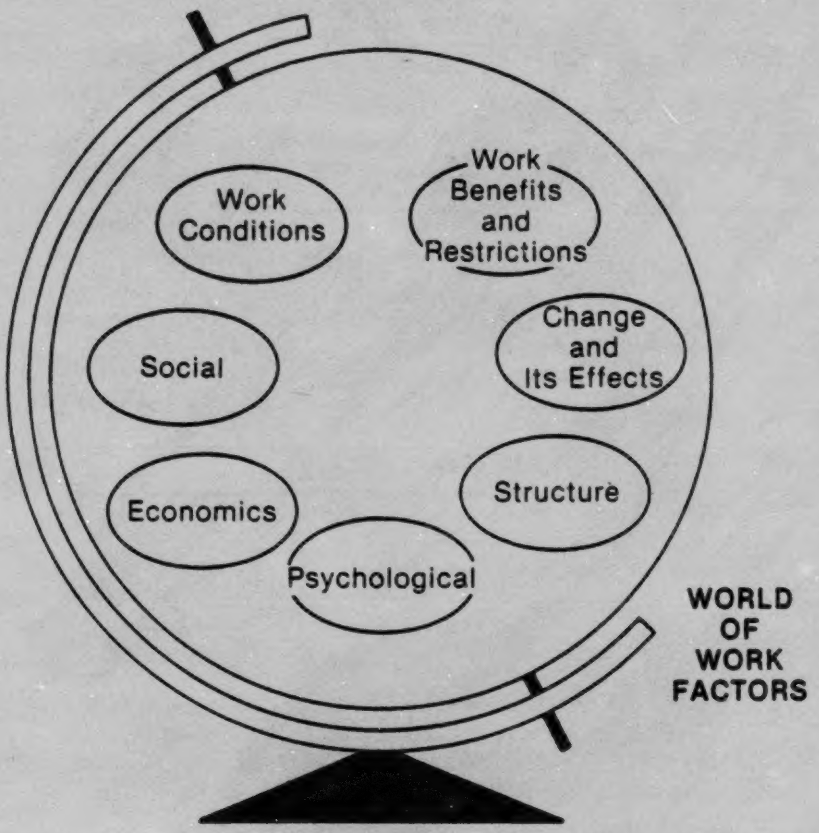
SELF—How individuals perceive themselves in relation to their individual characteristics and their relations with others within the intervening environment they have.

The following are suggested competencies students should possess in relation to the components of the above model.

| Grade | Self | Individual Characteristics | Others | Environment |
|---|---|---|---|---|
| K-3 | Be aware of possible disagreement of his/her perceptions and those of others. | Begin to be aware of his/her abilities. | Be able to differentiate self from others. | Be aware of his/her environment. |
| 4-6 | Begin to develop an understanding of those disagreements that exist. | Begin to explore his/her abilities. | Describe how he/she resembles and differs from others. | Explore the environment. |
| 7-9 | Attempt to eliminate discrepancies between own and others' perceptions of him/herself. | Relate his/her abilities to career planning. | Understand why people are unique. | Relate the self to the environment. |
| 10-12 | Attempt to bring together discrepancies between real and perceived self. | Formulate career expectations that are consistent with abilities. | Accept uniqueness of individuals (including self). | Reality test his/her role in the environment. |

SOURCE: *K-12 Guide for Integrating Career Development into Local Curriculum* (Drier, 1973).

## WORLD OF WORK

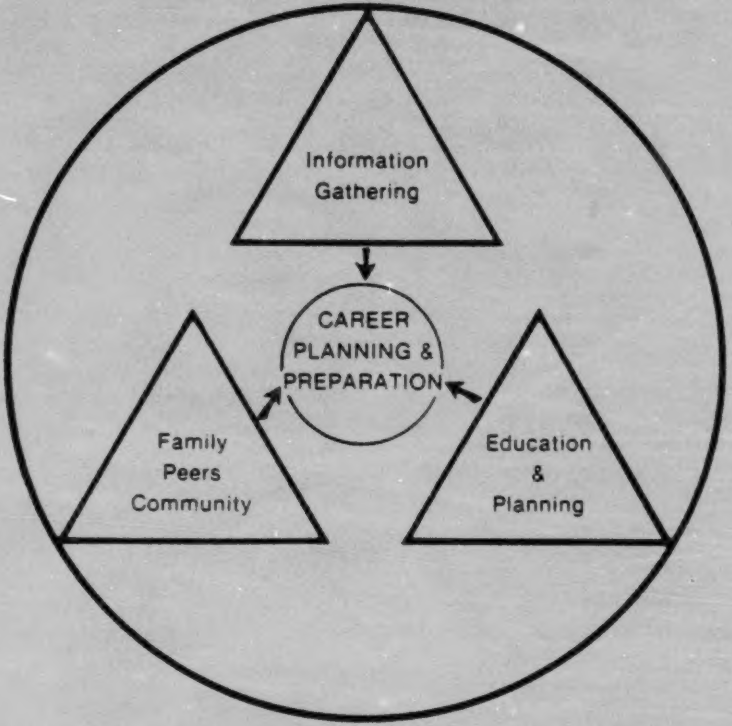

Work Conditions
Work Benefits and Restrictions
Social
Change and Its Effects
Economics
Structure
Psychological
WORLD OF WORK FACTORS

The following are suggested competencies students should possess in relation to world-of-work understanding.

| Grade | Nature of Work | Nature of Occupations | Work Values | Change and Effects |
|---|---|---|---|---|
| K-3 | Develop an awareness that work exists for a purpose. | Develop an awareness that occupations differ. | Develop an awareness that individuals work to meet needs. | Develop an awareness that change affects work. |
| 4-6 | Develop an understanding of purposes of work. | Develop an understanding of clusters of occupations. | Develop an understanding of how work meets needs. | Develop an understanding that change is continuous. |
| 7-9 | Explore, rank, and value purposes of work. | Explore occupations within clusters. | Explore the relationship between work and individual needs. | Experience (through simulation) change. |
| 10-12 | Affirm own purposes for work. | Make tentative occupational choice. | Identify tentative work life style. | Provide for changes in life style. |

SOURCE: *K-12 Guide for Integrating Career Development into Local Curriculum* (Drier, 1973).

# CAREER PLANNING AND DECISION MAKING



The following are suggested competencies students should possess in relation to the above model.

| Grade | Information Gathering | Family | Peers | Community | Education and Training |
|---|---|---|---|---|---|
| K-3 | Be aware that information on the world of work is available as well as where to obtain it. | Be aware that one's family plays a critical role in structuring values and attitude towards one's career plans. | Be aware that one's friends influence the individual's attitudes and values toward the work world. | Be aware that the community may have impinging environmental elements that could affect career choice. | Be aware that different workers need varying degrees of educational preparation for success. |
| 4-6 | Be aware of a system for the collection and use of occupational information. | Realize what family influences are being applied (positive or negative). | Understand what friends are having an impact on the individual's decision making (reasons). | Begin to identify some of the elements in one's environment that are having impact on one's decision making. | Realize that occupational competency requirements influence the kind and degree of one's educational preparation. |
| 7-9 | Develop occupational research skills and understand present and future employment trends. | Understand the influence one's parents are having on career choice. | Ability to screen positive and negative information offered from friends. | Understand the community influences and prepare to deal with their impact. | Understand the necessity for obtaining employability skills and where to obtain these skills. |
| 10-12 | Identify tentative career objectives based upon accurate and pertinent occupational and self information. | Evaluate the expectation family has for you and how it might affect one's decision. | Realize what individuals can assist one in career planning and preparation. | Recognize that career choice could be influenced by opportunities in one's community. | Know where and how to apply for a job. |

SOURCE: *K-12 Guide for Integrating Career Development into Local Curriculum* (Drier, 1973).

# PLANNING FOR INFUSION

KNOW STUDENT CAREER DEVELOPMENT OUTCOMES OR OBJECTIVES

KNOW INSTRUCTIONAL OBJECTIVES

MATCH CAREER AND INSTRUCTIONAL OBJECTIVES

PLAN ACTIVITY THAT COMBINES THE TWO OBJECTIVES

DEVELOP EVALUATION METHOD

# LESSON PLAN FORMAT

Title:

Grade Level: Subject Area:

Lesson Goal:

Lesson Objective(s):

Time Requirement:

Description of Activity:

Resources:

  Materials
  People
  Space/Equipment

Evaluation:

## EVALUATION TECHNIQUES

Prior to the workshop, the instructor should administer the Competency Opinionnaire (Pre-Workshop) to determine how competent the participants think they are in the topics to be taught. The Opinionnaire (Post-Workshop) is to be administered again at the end of the workshop to identify the level of competency growth. The instructor also should make specific observations during the workshop activities to measure attainment of the performance objectives. An additional instrument is designed to obtain data on the effectiveness of the workshop techniques.

The following questionnaires relate to this module. When more than one module is being taught, the instructor can develop a comprehensive pre-workshop and post-workshop competency opinionaire that addresses all of the modules.

## ASSESSING PARTICIPANTS' MASTERY OF PERFORMANCE OBJECTIVES

The instructor's outline suggests activities that require written or oral responses. The following list of performance indicators will assist you in assessing the quality of the participants' work.

**Module Title:** How to Develop Infusion Activities.

**Module:** II

| Major Activities | Performance Indicators |
|---|---|
| Learning Experience I | |
| 1. Defining infusion of career development concepts | 1. Were participants able to discuss the idea of infusion? |
| | 2. Did the majority of participants agree with the group's definition of infusion? |
| | 3. Did the slogans reflect the definition? |
| 2. Completing worksheet on whether an activity was infused or not | 1. Did the majority of participants answer at least 70 percent of the questions correctly? |
| Learning Experience II | |
| 1. Group discussions | 1. Did the majority of participants participate in group discussions? |
| | 1. Did the majority of groups identify at least three ways they could infuse career development concepts? |
| Learning Experience III | |
| 1. Developing infused activity | 1. Were the majority of the participants able to develop infused activities that followed the given format? |

## COMPETENCY OPINIONNAIRE

**Directions:** For each statement that follows, assess your present competency. For each competency statement, circle one letter.

### YOUR COMPETENCE

Assess your present knowledge or skill in terms of the following competency statements:

a. Exceptionally competent: My capabilities are developed sufficiently to teach this competency to other people.

b. Very competent: I possess most of the requirements but can't teach them to other people.

c. Minimally competent: I have few requirements for this competency.

d. Not competent: I cannot perform this competency.

| COMPETENCY STATEMENTS (PRE-WORKSHOP) | COMPETENCE (circle one) | | | |
|---|---|---|---|---|
| 1. Define the concept of infusing career development concepts, including its purpose and expected benefits. | a | b | c | d |
| 2. Demonstrate acceptance of the responsibility for infusing career development concepts into your curriculum. | a | b | c | d |
| 3. Demonstrate an understanding of the process used to develop infusion activities by developing a lesson plan. | a | b | c | d |

| COMPETENCY STATEMENTS (POST-WORKSHOP) | COMPETENCE (circle one) | | | |
|---|---|---|---|---|
| 1. Define the concept of infusing career development concepts, including its purpose and expected benefits. | a | b | c | d |
| 2. Demonstrate acceptance of the responsibility for infusing career development concepts into your curriculum. | a | b | c | d |
| 3. Demonstrate an understanding of the process used to develop infusion activities by developing a lesson plan. | a | b | c | d |

## WORKSHOP EFFECTIVENESS—MODULE II

NAME (Optional) ______________________________ TITLE ______________________

INSTITUTION ______________________________________________________

ADDRESS ______________________________________ TELEPHONE ______________

1. To what extent were the materials, processes, and organizational aspects of the module successfully used in the presentation and delivery of the module. For those materials, processes, or organizational aspects that you marked as "slightly successful," provide brief comments as to how they might be improved.

| Success | | | | Materials/Processes | Comments |
|---|---|---|---|---|---|
| Unsuccessful | Slightly | Moderately | Very Successful | | |
| 1 | 2 | 3 | 4 | **Materials** | |
| 1 | 2 | 3 | 4 | Handouts/Worksheets<br>Transparencies | |
| | | | | **Processes** | |
| 1 | 2 | 3 | 4 | Lecture Presentations | |
| 1 | 2 | 3 | 4 | Large Group Discussions | |
| 1 | 2 | 3 | 4 | Small Group Sessions | |
| | | | | **Organizational Aspects** | |
| 1 | 2 | 3 | 4 | Module Organization in Terms of the Logical Flow of Ideas | |
| 1 | 2 | 3 | 4 | Important Concepts Reinforced | |
| 1 | 2 | 3 | 4 | The Mix of Activities Helpful in Maintaining Interest | |

2. Indicate those aspects of the module that you liked most and those that you liked least.

| Liked Most | Comments |
|---|---|
| | |

| Liked Least | Comments |
|---|---|
| | |

3. SUGGESTIONS: Please provide suggestions or comments that you have for improving the workshop, workshop materials, and so on.

## RESOURCES

The materials listed below provide additional information on how to infuse career development concepts into the curriculum.

*Infusing Career Education into Basic Skills Instruction at the Elementary School Level: Strategies and Ideas for Teachers. Media Packages for Teacher Trainers: Primary Level. Final Narrative Report.* Carol B. Aslanian, Academy for Educational Development, Inc., New York.

This report presents strategies and ideas for elementary teachers who want to infuse career-related principles into their existing basic skills curriculum (language arts and mathematics). One section of the document describes the components necessary in planning career information concepts.

*South Burlington Career Education Training Modules.* South Burlington School District, South Burlington, Vermont.

This document serves as a training model for the implementation of career education. The six models contained in the document include guidelines for inservice programs and workshops, handouts, transparencies, and reference materials. An introduction to career education presents the concept to educators and community persons by establishing the need, defining terms, and clarifying student outcomes. Grade level or content area activities acquaint teachers with career education concepts and methods to (1) integrate them into existing curricula, and (2) examine materials and prepare curricula and career education goals within a school and/or school district. The community career education extension service includes "Parent Coffees," which explains how to organize small meetings in neighborhood homes to include parents in career education programs. "College Introduction to Career Education" is for students, potential teachers, and other interested community members. "Interview Workshop" is a core workshop on techniques for interviewing local business personnel and their relationship to curriculum. A design for career education ensures a comprehensive continuum for career education activities. It includes an implementation strategy for K-12 and describes the division of responsibilities for administrators, department chairpersons, guidance personnel, and teachers.

*Career Education Inservice Training Workshops: Structure and Format.* Burnis Hall, Jr., Wayne State University, College of Education, Detroit, Michigan.

The Detroit Urban Career Education Project served two inner-city regions with a combined student population of over fifty thousand. These regions were involved in a K-12 career education curriculum project designed to deliver the Michigan Career Education Model. The project provided school staff with the knowledge, skills, and commitment necessary for infusing career development concepts into the curriculum. The initial inservice training, involving approximately 150 teachers, counselors, and administrators, was held during the summer of 1978 and was designed to provide them with the knowledge and skills they would need to implement career education in their classrooms.

During the 1978-79 school year, when the career education lessons and units were being implemented, approximately thirty weekly inservice workshops were conducted to help school staff continue development and refinement of the lessons and units. In all, approximately 300 teachers, counselors, and administrators from fourteen elementary, middle, and high schools participated in the inservice training workshops. This document includes a description of the program structure, workshop goals, and workshop objectives.

*Careers. A Districtwide, School-based Approach.* Sara Walkenshaw (compiler), Kansas City School District, Kansas City, Missouri.

The major portion of this publication contains career education infusion strategies. However, sections are devoted to defining career education and suggesting roles and functions for those individuals involved in the teaching/learning process. Also, career education goals and teaching points, evaluation, and teaching methods are addressed.

*Project FOCUS. Methods and Materials for Training Career Final Report.* Harold S. Resnick and others, Boston University, School of Education, Boston, Massachusetts.

This document reports on program methods and materials for training career educators (Project FOCUS). The project accomplished three major objectives: (1) to identify, select, and provide inservice career awareness staff development training for elementary school teachers; (2) to design, develop, and evaluate a replicable, exportable, and practical staff development training manual that can be used to train personnel to implement elementary school career education programs; and (3) to research the effectiveness of the career awareness training manual and to validate the efficiency of matching teacher variables to training procedures. Developmental, managerial, and evaluative activities were conducted at Boston University, School of Education. Four field-site school systems in eastern Massachusetts were utilized. At these sites, eighty elementary school education personnel received comprehensive career awareness inservice training. This training concentrated on classroom curriculum infusion strategies. The inservice component not only delivered direct services to these educators, but served as the field-test segment for the development of the training manual.

The training manual is divided into twelve chapters. The first chapter provides an overview of the Project FOCUS manual. The second chapter provides a general introduction to career education. Chapter 3 describes eight elements of career education (self-awareness, career awareness, appreciations and attitudes, educational awareness, economic awareness, decision-making skills, skill awareness and beginning competence, and employability skills). Chapter 4 maps out the relationship of career education to the school curriculum. Chapter 5 presents strategies for infusing career awareness into the school curriculum. Chapter 6 discusses role-playing as an instructional strategy. Guidelines for developing learning activity centers for career awareness are presented in chapter 7. Chapter 8 explains how to use community resources for career education. Chapter 9 provides guidelines for preparing career education instructional units. Evaluating career education materials is covered in chapter 10. Chapter 11 addresses the role and function of school personnel in career education. Finally, chapter 12 provides information and resource materials regarding the evaluation of Project FOCUS.

*Project ENTICE: "Enlisting Teachers in Infusing Career Education." Final Project Performance Report.* Livonia Public Schools, Livonia, Michigan.

The major goals of this project were (1) to provide high school staff members with an understanding of the process of infusing career education into the curriculum and the capability of applying it in daily classroom lessons, (2) to develop materials suitable for use in the process of infusing career education into the high school curriculum, and (3) to provide high school students with a curriculum infused with career education concepts and skills. Thirty-two senior high school staff members were trained in the career development phase of the Michigan Model of Career Education. In examining the specific objectives of the major goals, a third-party evaluator found that 223 of the expected 360 examples were written; students did not demonstrate an increase in self-awareness; and students did not demonstrate increased knowledge of careers. The third-party evaluator also found that training was provided for project teachers, criteria for infusion examples were established, and a slide-tape presentation was completed.

*K-12 Urban Career Education Infusion Project. Final Evaluation Report.* William T. Denton and William Kleck, Dallas Independent School District, Dallas, Texas.

The K-12 Urban Career Education Infusion Project of the Dallas Independent School District focused on fourteen schools located in a predominantly black community. Conducted in two phases, the project attempted to demonstrate that through infusing career education into the existing curriculum, trained teachers can influence academic achievement of students. Specific activities of the first year included the following: (1) a comprehensive needs assessment; (2) inservice training for 25 percent of the school staff; (3) curriculum modules to be infused into the existing curricula; (4) materials to increase community awareness and involvement in the the schools; and (5) a comprehensive evaluation design for the second phase of the project. For the needs assessment, a 10 percent random sample stratified by grade was used to obtain data from students in grades K-6, all elementary teachers were surveyed. Other surveys included all educators in the fourteen experimental schools, intact community groups, and principals. Participants in the fifteen staff development workshops were included in the staff development evaluation, and project staff members provided necessary information for the evaluation of the curriculum identification/development effort and implementation procedures.

*A Report of the Project Statewide Infusion of Career Education into the Preparation of Teachers, Counselors, and Administrators. Final Performance Report.* Roger L. Luft and others. Interinstitutional Consortium for Career Education, Salem, Oregon.

Career education staff development activities were conducted in three phases: (1) staff development for college and university faculties; (2) program development for teacher, counselor, and administrator preparation; and (3) teacher certification and training program accreditation. Project management, staff development, program implementation, and teacher certification/program accreditation were examined by three types of evaluation activities: self-evaluation, user evaluation, and third-party evaluation. Selected evaluation findings include the following: (1) positive changes in perceptions toward career education were minimal among college/university staff; (2) project need was well documented and activities were in line with identified needs; (3) the project assisted higher education and related agencies to interact by providing focus and task orientation; (4) project functions constituted a system of facilitating career education personnel development; (5) project slippage points were identified and adjusted; and (6) information flow was primarily from project central office staff to individual campuses, with little flow among campuses. Recommendations were made to improve further project efforts.

*Texas System for Incremental Quality Increase. Final Report.* Texas Education Agency, Austin, Texas.

Ten of the twenty education service centers (ESC) that provide instructional and technical services to the local school district in Texas were asked to participate in a project designed to demonstrate infusion and management techniques in career education. Activities were accomplished under the following objectives: (1) establish the transportability of the curriculum writing process utilized during the project's first year by developing, in a two-day workshop, the level of competence necessary for participating personnel to train teachers in their respective regions; (2) generate at least one infused career education learning model for each teacher participating in a series of workshops held in ten ESC regions (a total of 615 modules were written, 86 percent of which met or exceeded the established criteria for utility); (3) develop a two-day workshop to train ESC career education coordinators and instructional coordinators in techniques to implement career education at the local education agency level (training and interim consultation were rated as excellent); (4) determine the efficacy of sample learning modules by testing these modules in a demonstration school and by measuring student development prior to and during instruction (substantial student gains were indicated); (5) disseminate the infused career education learning modules; and (6) coordinate the activities of all organizations and agencies involved in the project so that objectives and activities can be efficiently identified, planned, and implemented.

*Project CLIMB: Career Ladder Infusion Model Building, Final Report.* Shirley Villoni, Garden Grove Unified School District, Garden Grove, California.

The project was designed to develop, field test, and publish a career infusion unit curriculum for grades 1-12. Students at one project school, two transport schools, and a comparison school formed the study sample. A third party evaluated the accomplishments of objectives for the following program components: instruction, staff development, parent-community, guidance, evaluation, project management, and curriculum development. The one project and two transport groups exceeded the comparison group's scores on the English section of the comprehensive test of basic skills. Second-year students scored significantly higher than first-year students on the attitude section and two parts (knowing about jobs and choosing a job) of a career maturity inventory. The report contains curriculum materials for the following areas: English Literature II, English Composition II, Alegebra I, World History, Essentials of Composition, Geometry, U.S. History, Civics, Senior Math, English Composition—Advanced, and spelling/vocabulary. Materials contain curriculum concepts and objectives, career concepts and objectives, activities, and resources.

*Project Ceres. Ceres Unified School District, Ceres, California.* Octave V. Baker and Virginia Lish. American Institutes for Research in the Behavioral Sciences. Palo Alto, California.

This document presents one locale's way of successfully implementing a career education activity, the results of which are educationally significant. The project is described in terms of project overview, program development, materials and activities, parent and community involvement, staffing and management, costs, evidence of effectiveness, and conclusions. In this report of career education responsiveness to every student, the ultimate goals are stated as follows: (1) infuse career education concepts into the elementary and secondary curriculum, and (2) develop an articulated curriculum that provides for student attainment of career education goals. The primary subjects are identified as approximately forty-two hundred students in grades K-12, and the evaluation design is described as a pre-post treatment and control group design.

*Career Education Infusion: Strategies for the Classroom.* Walter Popper and Thomas W. McClain, Massachusetts University, Institute for Governmental Services, Amherst, Massachusetts.

Divided into three chapters, this manual suggests career-related activities designed to be infused in the standard school curriculum, K-12. One chapter explains what is meant by career infusion and suggests various processes and methods career educators can use.

*Tips for Infusing Career Education in the Curriculum.* Bob L. Taylor and others. Social Science Education Consortium, Inc., Boulder, Colorado.

The publication begins with a brief history of and rationale for infusing career education in social studies. The second chapter describes the infusion process and shows educators how to develop social studies lessons, activities, and units that have career education components infused into the content. The next chapter presents four complete units that were developed using the curriculum infusion model for elementary, middle, and high school curricula. The last chapter presents a rationale and ideas for involving the community in career education programs.

*Preparation of Perspective Teachers for Career/Vocational Education. Final Report.* Paul L. Benedict and David G. Haines. Eastern Connecticut State College, Willimantic, Connecticut.

During the second year of a projected three-year pilot program developed to help future teachers learn how to infuse career education into their future teaching experiences, twenty-nine students participated in a three-course, nine-semester-hour program offered by Eastern Connecticut State College. The program included two supervised seven-week internships in a local business, industry, or social agency. The program was designed to meet the following objectives: (1) to affect positive attitudes toward the dignity of work; (2) to bring about realistic understandings about the contributions of schools to the well-being of people; (3) to teach ways in which curriculum materials in career education can be used in the regular school program; and (4) to provide opportunities for exposure to a variety of career-related experiences. The project evaluation indicates that the students involved demonstrated substantial growth in their knowledge about career education, attitudes toward the world of work, and understanding of the role of schools in career education, as compared to a control group of other college students and teachers in the field. Conclusions are drawn concerning the strengths and weaknesses of the program, and recommendations are made regarding modifications for the proposed third year.

*Career Education Staff Development Guide for Teachers.* Robbinsdale Independent School District 281, Robbinsdale, Minnesota.

The materials for a career development program for infusing career education concepts into elementary or high school curriculum are presented in this staff development guide. The text is arranged around four phases involved in implementing a career education. Phase I (Why) contains excerpts of four documents relating to change in education and career education. Phase 2 (What) presents data that define the concept of career education, and it discusses seven models to aid the teacher in understanding and implementing this process in practical applications in the school. Phase 3 (How) offers approaches and strategies in the development of units and activities, including career development and success-oriented education; in writing units in career education; in varied applications of career clustering; in varied techniques for the career interview; in field trip outline; in career education objectives, K-12; in using resource people; in the infusion process, conditions, criteria, and sample materials for evaluation; in projects and activities in career guidance practices for teachers and counselors; in the career education information center; and in objectives and a matrix for a career workshop. Phase 4 (Planning) offers an outline of areas that should be considered by the planning committee for implementing a career development program.

*Developing Career Education Units. A How-To Guide.* Beckham Caudill, Kentucky Valley Educational Cooperative, Hazard, Kentucky.

Intended as a guide to instruct teachers how to write career education units for their students, this booklet briefly explains how to incorporate subject area objectives with career education objectives in six steps. A sample unit is included as a reference, and there is a discussion of five major problems that teachers may encounter during the development.

*Career Education Administrators and Counselors Implementation Model. Module IV—Planning.* John A. Thompson and Mona K.O. Chock, Hawaii State Department of Education, Office of Instructional Services, Honolulu, Hawaii.

Part of a thirteen-volume series designed to be used as a group inservice or a self-learning system to train school administrators and counselors for their roles in career education. This first section of this module is designed to assist principals and other school administrators to develop plans for curriculum proparation and infusion of career education. Others deal with planning for resource allocation, for scheduling, and for community involvement. This module contains three lessons with activities and readings. Lesson 1 is concerned with the scope and sequence of the curriculum planning and how administrators can utilize it; a portion is devoted to assisting teachers to participate in the school-level planning of career education activities. In Lesson 2, five examples are presented to illustrate the infusion concept and process. Issues addressed in Lesson 3 include sex role stereotypes, values determination, sex stereotypes in the classroom, sex discrimination in schools, teacher attitudes and values, and the role of values in career education. A bibliography of periodical literature on values in career education is included.

## REFERENCES

Drier, Harry N., Jr. and Associates. *K-12 Guide for Integrating Career Development into Local Curriculum.* Worthington, OH: Charles A. Jones Publishing Company, 1973.

Hoyt, Kenneth. *Teachers and Career Education.* Washington, DC: U.S. Department of Health, Education and Welfare, n.d.

Preli, Barbara Stock. *Career Education and the Teaching/Learning Process.* Washington, DC: U.S. Department of Health, Education and Welfare, n.d.

## INTRODUCTION

A major purpose of this training package is to facilitate better teacher and student use of the *Occupational Outlook Handbook (OOH).* This module helps workshop participants understand the organization of the *OOH* and why it is important to teach occupational information. In the first learning experience, the participants become familiar with specific sections of the *OOH* through a large group presentation and small group activities. They also learn about other sources of occupational information. In the second learning experience participants discuss the need to teach occupational information at all grade levels. In small groups, participants identify ways in which they can use *OOH* information.

**CATEGORY:** Introductory

**KEY CONCEPTS:**

1. The *Occupational Outlook Handbook* contains information that can be incorporated into the curriculum.
2. It is necessary for students to receive occupational information.

**COMPETENCIES:** After completion of this unit, workshop participants (teachers of various subjects) will be able to—

1. locate specific information within the *Occupational Outlook Handbook,*
2. identify reasons why it is important to incorporate occupational information into their curricula, and
3. give examples of how the information contained in the *Occupational Outlook Handbook* can be incorporated into their curricula.

## LEARNING EXPERIENCE I

## HOW THE OCCUPATIONAL OUTLOOK HANDBOOK IS ORGANIZED

**KEY CONCEPT:** The *Occupational Outlook Handbook* contains information that can be incorporated into the curriculum.

**COMPETENCY:** Workshop participants will be better able to locate specific information within the *Occupational Outlook Handbook.*

**PERFORMANCE OBJECTIVES:** Workshop participants will correctly answer at least 70 percent of the questions on a worksheet related to the structure and organization of the *Occupational Outlook Handbook.*

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**OVERVIEW:** The purpose of this learning experience is to increase workshop participants' awareness of the content of the *Occupational Outlook Handbook (OOH)* and how it is organized. The instructor presents the major sections of the *OOH;* then, participants locate information in it. There also is a brief presentation on other federally funded occupational information resources.

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**INSTRUCTOR'S INFORMATION:**

Time — 45 to 60 minutes

Workshop Resources — *Occupational Outlook Handbook* (one for each participant)

**Handout Masters**
The *OOH* Summary—pages III-11 through III-38
Questions from the *OOH*—page III-39

**Transparency Masters**
How to Get the Most from the Handbook—page III-41
Where to Go for More Information—page III-43
Tomorrow's Jobs—page III-45
Assumptions and Methods Used in Preparing Employment Projections—page III-47
Administrative and Managerial Occupations—page III-49
Dictionary of Occupational Titles (D.O.T.) Index—page III-51

Index to Occupations—page III-53

| | |
|---|---|
| Instructional Methods | Large group presentation<br>Small group or individual activities |

| Instructor's Outline | Notes |
|---|---|
| I. Introduction of the Learning Experience | |
| A. Explain the purpose of the activity—to make participants aware of the organization of the *Occupational Outlook Handbook (OOH).* | Administer the Competency Opinionnaire (pre-workshop) page III-61. |
| B. Indicate that the group will explore generally the contents of the *OOH;* then, the participants will use it. | |
| II. Sources of Occupational Information | |
| A. Indicate that prior to the discussion of the *OOH,* there will be a brief presentation of other sources of occupational information. | It would be useful if you could obtain copies of documents described in this section. |
| B. Mention the following: | |
| 1. The U.S. Department of Labor develops many publications that contain occupational information. | |
| 2. Besides the *OOH,* the most common documents include the following:<br>*Dictionary of Occupational Titles (D.O.T.),* which identifies, defines, and classifies over twenty thousand occupations. Each definition includes a nine-digit code, the primary industry in which the occupation is found, alternative names by which the job is known, and a list of the most common job tasks. The *D.O.T.* coding system is often used as a cross-referencing device in other documents, including the *OOH.*<br>The *Guide for Occupational Exploration* is designed to assist individuals in using occupational and labor market information more effectively in making career decisions. The user is programmed through a series of steps that guide one through the process of occupational choice. The guide's descriptive content is based on major groupings of occupations (e.g., social services, sports). Information relates more to similarities among grouped occupations than to individual occupational differences. Specific content includes examples of work for occupations in each grouping, personal "clues" that might indicate interest in occupations, and preparation required for entering occupations. | |

| Instructor's Outline | Notes |
|---|---|
| *Exploring Careers* is a resource at the junior high level. (It is no longer being published.) The occupations are organized into the same occupational clusters as the *OOH.* There are occupational narratives, evaluative questions, activities, and career games. | |
| The *Occupational Outlook Quarterly* provides updated occupational information, organizes and synthesizes information printed elsewhere, and reviews new techniques and counseling aids. | |
| The *Occupational Projections and Training Data* is a statistical and research supplement to the *Occupational Outlook Handbook* that presents comprehensive and reliable statistics on current and projected occupational employment. | |
| III. What Is the *Occupational Outlook Handbook?* | |
| A. Provide background on the *OOH.* | Be sure participants have copies of the *OOH* to review during the activity. If you cannot obtain sufficient copies of the *OOH,* use the handout on pages III-11 through III-38. |
| 1. The *Occupational Outlook Handbook* is published by the U.S. Department of Labor, Bureau of Labor Statistics. | |
| 2. For four decades the Bureau of Labor Statistics has conducted research on employment in occupations and industries for use in vocational guidance. | |
| 3. It is revised every two years; the 1982-83 *OOH* is the fifteenth edition. | |
| 4. The *OOH* provides the reader with current and comprehensive information about work today and job prospects for tomorrow. | |
| 5. Information is obtained from business firms, trade associations, labor unions, professional societies, research organizations, educational institutions, and government agencies. | |
| B. Explain the structure of the *OOH.* Give an overview and indicate that participants will have more hands-on experience with the *OOH* soon. | If you are using an edition of the *OOH* other than 1982-83, make necessary page |

| Instructor's Outline | Notes |
|---|---|
| 1. "How to Get the Most from the Handbook" describes strategies for using the *OOH* and details the type of information provided for each occupation. | number changes. Ask participants to turn to each section when it is mentioned. If participants do not have copies of the *OOH,* distribute handout packet "The *OOH* in Summary" found on page III-11. Ask participants to turn to page 1 of the *OOH.* Show transparency III.I.1 found on page III-41. |
| 2. "Where to Go for More Information" suggests sources of information on (1) careers, (2) education and training, (3) financial aid, (4) career counseling for special groups, (5) finding a job, and (6) the labor market. | Ask participants to turn to page 5 of the *OOH.* Show transparency III.I.2 found on page III-43. |
| 3. "Tomorrow's Jobs" discusses expected changes in the population and the labor force, as well as employment projections for major industrial sectors and broad occupational groups. | Ask participants to turn to page 13 of the *OOH.* Show transparency III.I.3 found on page III-45. |
| 4. "Assumptions and Methods Used in Preparing Employment Projections" briefly presents how the quantitative estimates were obtained for making occupational employment projections. | Ask participants to turn to page 20 of the *OOH.* Show transparency III.I.4 found on page III-47. |
| 5. "Occupations," the major section of the *OOH,* presents twenty occupational clusters. At the start of each cluster section there is a brief description of the cluster, and then the individual occupations are represented. The format for each cluster is the same. | Ask participants to turn to page 22 of the *OOH.* Show transparency III.I.5 found on page III-49. Read the headings for an occupational cluster and ask participants to follow along. |
| 6. "Dictionary of Occupational Titles (D.O.T.) Index" provides a listing of the D.O.T. number, the S.O.C. (Standard Occupational Classification) code, the D.O.T. title, and the page in the *OOH* on which the occupation is presented. This index shows the interrelationships of the different occupational coding systems. | Ask participants to turn to page 461 of the *OOH.* Show transparency III.I.6 found on page III-51. |

| **Instructor's Outline** | **Notes** |
|---|---|
| 7. The Index to Occupations lists in alphabetical order the occupations presented in the *OOH.* | Ask participants to turn to page 471 of the *OOH.* Show transparency III.I.7 found on page III-53. |
| IV. Exploring the *Occupational Outlook Handbook* | |
| A. Divide participants into groups of two and ask them to complete the worksheet "Questions from the *OOH.*" | Distribute the worksheet, found on page III-39 "Questions from the *OOH.*" |
| B. After participants have completed the worksheet, ask volunteers to provide the answer to each question and discuss how answers were determined. | |
| The correct answers are presented below. | |
| 1. SOICC Director<br>New York Department of Labor<br>Labor Department Building No. 12<br>State Campus, Room 559A<br>Albany, NY 12240<br>(A list of SOICC directors is contained in the section "Where to Get More Information"—page 6). | |
| 2. South (20.0 percent) and West (23.9 percent)<br>(In "Tomorrow's Jobs," the discussion on population describes regional differences—page 13.) | |
| 3. Teachers, librarians, and counselors<br>(The Table of Contents on page vii lists kindergarten and elementary school teachers under this occupational cluster title.) | |
| 4. Page 315<br>(The Index to Occupations, page 471, lists agricultural pilots as being on page 315.) | |
| 5. Architects, landscape architects, city managers, and planning engineers<br>(These occupations are listed under "Related Occupations" on page 118. The pages that describe urban and regional planner can be located by looking in either the Table of Contents or the Index to Occupations.) | |

**Instructor's Outline** | **Notes**

6. Chemical engineer
(The "Dictionary of Occupational Titles (D.O.T.) Index," page 461, presents the D.O.T. numbers in numerical order with the titles beside them.)

7. More than 1.6 million
(This figure is mentioned under "Employment" on page 136. The pages that describe kindergarten and elementary school teachers can be located by looking in either the Table of Contents or the Index to Occupations.)

8. $11,544
(This figure is presented under "Earnings, Allowances, and Benefits" on page 452. The section on military occupations is located by looking in the Table of Contents.)

9. D.O.T. 273.533-010
(The D.O.T. number is listed under each occupational title prior to the discussion of the occupation. This D.O.T. number is listed on page 239.)

10. American Medical Record Association
John Hancock Center, Suite 1850
875 N. Michigan Avenue
Chicago, IL 60611
(This address is listed under Sources of Additional Information on page 188.)

C. Ask participants to indicate by a show of hands how many questions they answered correctly.

D. Award the highest scorer(s) with a token prize (e.g. piece of gum, candy, pencil).

E. Ask participants if they have any questions on the organization of the *Occupational Outlook Handbook.*

V. The *OOH* and You

A. Ask participants to think of an occupation they have always dreamed of pursuing.

B. Instruct participants to find the occupation in the *OOH* and read its description.

| Instructor's Outline | Notes |
|---|---|
| C. Ask a few participants to report on a surprising fact that they discovered about their "dream" occupation. | Keep a tally for evaluation purposes. |
| VI. Activity Wrap-Up | |
| A. Indicate that the *OOH* is a valuable source of occupational information. | |
| B. Mention that in the next (Learning Experience II) participants will consider further the use of occupational information. | |

# THE OOH IN SUMMARY

# How to Get the Most from the Handbook

What do people do in their jobs? How much education and training will I need to enter a certain occupation? Will it be difficult to find a job? How much can I expect to earn? Whether you are preparing to enter the world of work for the first time, reentering the labor force after an absence, or planning to change your occupation, these and other questions may arise as you try to select a career that is right for you. With thousands of jobs to choose from, finding answers to these kinds of questions can be difficult. However, with sufficient research, you can make an informed and confident career choice.

**Where do I start?**

A good place to start your study of careers is the *Occupational Outlook Handbook*. The *Handbook* provides information on what jobs are like; education and training requirements; and advancement possibilities, earnings, and job outlook. While every possible job is not discussed, the *Handbook* provides detailed information on about 250 occupations.

Like a dictionary, encyclopedia, or other reference book, the *Handbook* is not meant to be read from beginning to end. You can simply look through the table of contents or alphabetical index, find an occupation or area of work that you are interested in, and read that section. If you want to get a general view of the economy and the world of work, read the chapter on Tomorrow's Jobs. It explains some of the changes taking place in the job market today and what is expected to happen through the 1980's.

If you are just beginning to plan for a career, you may wonder what things you should consider. Start by listing your interests, abilities, and goals. Does science or art interest you? Do you enjoy working with your hands and building things, or do you really prefer working with people? Is money, recognition, or being a leader important to you? Once you have answered these and similar questions, you will be better able to choose an occupation or area of work that most closely matches your personal characteristics. Of course, assessing your traits and aptitudes is very difficult. Ask others to help you. Your school counselor has special tests that can help you learn about yourself. Your family, friends, and neighbors can also provide useful assistance.

Once you have decided what your interests are, use the *Handbook* to find occupations and areas of work that match your interests. The occupations in the *Handbook* are grouped in 20 clusters of related jobs. So, if you find that you enjoy fixing things, you might start by looking at occupations in the cluster on mechanics and repairers. Or, if you want to make helping other people your life's work, you might look at occupations in 1 of the 3 health clusters. The 20 occupational clusters are:

—Administrative and managerial occupations.
—Engineers, surveyors, and architects.
—Natural scientists and mathematicians.
—Social scientists, social workers, religious workers, and lawyers.
—Teachers, librarians, and counselors.
—Health diagnosing and treating practitioners.
—Registered nurses, pharmacists, dietitians, therapists, and physician assistants.
—Health technologists and technicians.
—Writers, artists, and entertainers.
—Technologists and technicians, except health.
—Marketing and sales occupations.
—Administrative support occupations, including clerical.
—Service occupations.
—Agricultural and forestry occupations.
—Mechanics and repairers.
—Construction and extractive occupations.
—Production occupations.
—Transportation and material moving occupations.
—Helpers, handlers, equipment cleaners, and laborers.
—Military occupations.

**About Those Numbers at the Head of Each Statement**

The numbers in parentheses that appear just below the title of most occupational statements are *D.O.T.* code numbers. D.O.T. stands for the *Dictionary of Occupational Titles* (fourth edition), a U.S. Department of Labor publication. Each number helps classify jobs by the type of work done, required training, physical demands, and working conditions. D.O.T. numbers are used by Job Service offices to classify applicants and job openings, and for reporting and other operating purposes. They are included in the *Handbook* because career information centers and libraries frequently use them for filing occupational information. An index listing *Handbook* occupations by D.O.T. number may be found just before the alphabetical index in the back of this book.

**What will I learn?**

Once you have chosen an occupation or cluster you'd like to learn more about, go to that section of the *Handbook*. Each occupational description follows a standard format. There are sections on the nature of the work; working conditions; employment; training, other qualifications, and advancement; job outlook; earnings; related occupations; and sources of additional information.

**Nature of the work.** An important part of your career decision will be whether the work done on the job appeals to you. In this section, you will discover what workers do on the job, what tools or equipment they use, and how they do their tasks. To get a better understanding of how the work in various occupations differs, you should read several different occupational descriptions and compare them. This will allow you to match your abilities, interests, and goals with the type of work done in a particular job or employment setting.

**Working conditions.** When considering an occupation, you may want to know the conditions under which you would have to work. Some working conditions may not be desirable while others may appeal to you. Most jobs offer a little of both. For example, when overtime is required, employees must give up some of their free time and be flexible in their personal lives. This is offset, however, by the opportunity to earn extra income or time off.

Evening or nightwork is part of the regular work schedule in many jobs. Bartenders, guards, and some factory workers may be required to work these shifts on a permanent basis. Workers in other occupations, such as nurses and police officers, may work nights on a rotating basis. Still other workers may be assigned to split shifts: Busdrivers, for example, may work morning and evening rush hours with time off in the middle of the day. However, some people prefer shiftwork because they can pursue leisure activities or take care of errands during daytime hours.

Work settings vary greatly. People work in office buildings; on construction sites; in mines, factories, restaurants, and stores; and on ships and planes. Some people like a quiet, air-conditioned setting; others prefer the hum of machinery. By knowing the setting of jobs you find interesting, you can avoid working in an environment that you would find unpleasant.

Many workers have to be outdoors some or all of the time. Mail carriers, construction workers, firefighters, and foresters are a few examples. Being exposed to all types of weather may be preferred to indoor work, however, by those who enjoy the outdoors and consider it healthy.

Some jobs are potentially dangerous. Cuts, burns, and falls can occur in restaurant kitchens, factory assembly lines, and forge shops, for example. Consequently, many jobs, such as mining and construction work, require the use of specially designed equipment and protective clothing.

Some jobs require standing, crouching in awkward positions, heavy lifting, or are otherwise strenuous. Be sure you have sufficient physical strength and stamina for the work you are interested in.

**Figure I**

| Description | Projected 1980–90 change in employment requirements |
|---|---|
| Much faster than the average for all occupations | 50.0 percent or more |
| Faster than the average for all occupations | 28.0 percent to 49.0 percent |
| About as fast as the average for all occupations[1] | 15.0 percent ot 27.0 percent |
| More slowly than the average for all occupations | 6.0 percent to 14.0 percent |
| Little change is expected | 5.0 percent to −5.0 percent |
| Expected to decline | −6.0 percent or more |

[1] The average increase projected for all occupations over the 1980–90 period is between 17.1 percent and 25.3 percent.

**Employment.** Information on the number of workers in an occupation is important because large occupations, even those growing slowly, provide more job openings than small ones as workers leave the occupation for a variety of reasons.

This section also tells whether workers in an occupation are concentrated in certain industries or geographic areas. Some jobs, such as secretaries, are found throughout the country in almost every industry. Others, like actors and actresses, are concentrated in certain parts of the country. This type of information helps you know where to go to look for the kind of job you want. It also is useful to those who have strong preferences about where they live.

In addition, information on part-time employment may be included. For students, homemakers, retired persons, and others who may want to work part time, knowing which occupations offer good opportunities for part-time work can be a valuable lead in finding a job.

**Training, other qualifications, and advancement.** This section should be read carefully because preparing for an occupation can mean a considerable investment of time and money. If you currently are in school, it's a good idea to look closely at the high school and college courses considered useful preparation for the career you have in mind.

Workers can prepare for jobs in a variety of ways, including college study leading to a degree, certificate, or associate degree; programs offered by public and private postsecondary vocational schools; home study courses; government training programs; experience or training obtained in the Armed Forces; apprenticeship and other formal training offered by employers; and high school courses. For each occupation, the *Handbook* identifies the preferred training. In many cases, alternative ways of obtaining training are listed as well. Remember, the amount of training you have often determines the level at which you enter an occupation and the speed with which you advance.

For many occupations, certification or licensure is required. Physicians and nurses, elementary and secondary school teachers, barbers and cosmetologists, and electricians and plumbers are examples of workers who must be licensed. This section identifies occupations that require licensure and what the general requirements are. However, States vary in their licensure requirements for certain occupations. If you are considering an occupation that requires licensure, be sure to check with the appropriate State agency about specific requirements. Common requirements for a license include completion of a State-approved training or educational program and passing a written examination.

In addition to education, training, and licensure requirements, this section discusses the personal qualities generally needed by workers in a particular job. For example, a job may require a person who can make responsible decisions, enjoys working with other people, and can work in a highly competitive atmosphere. This information will allow you to match your personality—your likes and dislikes—with those required in a certain occupation.

The world of work is constantly changing and today fewer people spend their lives in a single occupation. Roughly 1 worker in 9 changes his or her occupation each year. Some have several jobs over a lifetime, changing careers as they learn new skills or feel a need to try another line of work. If a pattern of movement exists from an occupation to another, it is discussed in this part of each *Handbook* chapter. It is helpful to know, for example, that certain jobs are stepping stones to others. Skills gained working at one job can make you more employable in another—perhaps a job that is more desirable in terms of earnings, working conditions, or self-expression. In addition, it is useful to know which jobs offer the best opportunities for transferring to other work of a similar nature. Persons trained in electrical or chemical engineering, for example, frequently can transfer to another engineering specialty where they can apply general engineering knowledge in different ways. Similarly, many computer programmers move into systems analyst jobs after several years of experience.

In some cases, moving from one occupation to another takes more than the training or experience acquired on the job. For example, a hospital aide must have a year of specialized training before advancing to licensed practical nurse. Many *Handbook* statements describe the possibilities for advancement after additional training and note any in-service programs that allow employees to gain needed skills while continuing to work part time.

Because local job markets vary significantly, it usually is wise to discuss patterns of job transfer and advancement with counselors, local employers, and others who know about the particular job market where you want to work.

**Job outlook.** While your interests, abilities, and career goals are extremely important, you also need to know something about the availability of jobs in the fields that interest you most. This section discusses prospective employment opportunities for each occupation. In most cases, the information about job prospects begins with a sentence about the expected change in employment through the 1980's (figure I). In general, if expansion in an occupation is expected to be as fast as or faster than the average for all occupations, job opportunities should be favorable. Occupations in which employment is likely to grow more slowly than the average, stay about the same, or decline generally offer less favorable job prospects. For most occupations, the specific factors that are expected to influence an occupation's rate of growth are discussed.

For some occupations, information is available on the supply of workers—that is, the number of people pursuing the required type of education or training and the number subsequently entering the occupation. When such information is available, the job outlook describes prospective employment opportunities in terms of the expected demand-supply relationship. The job outlook is termed excellent when the demand for workers is likely to greatly exceed the supply of workers; keenly competitive when the supply of workers is likely to exceed the demand for them. The precise terms used in the *Handbook* are shown in figure II.

**Figure II**

| Job opportunities | Prospective demand-supply relationship |
|---|---|
| Excellent | Demand much greater than supply |
| Very good | Demand greater than supply |
| Good or favorable | Rough balance between demand and supply |
| May face competition | Likelihood of more supply than demand |
| Keen competition | Supply greater than demand |

Workers who transfer into one occupation from another sometimes are a significant part of the supply of workers; similarly, those who transfer out may have a substantial effect on demand because their leaving usually creates job openings. When information is available, the job outlook section describes transfer patterns and their effect on the demand for and supply of workers in certain occupations. The employment outlook for engineers, for example, recognizes that transfers into the field are likely to constitute a substantial portion of supply, if past trends continue.

In many cases, a statement is made about the effect on employment of fluctuations in economic activity. This information is valuable to people looking into long-range career possibilities at a time when the economy is in a recession. You may understandably wonder: What will the economy be like when I enter the labor market? Will it be harder to find a job 5 or 10 years fom now than it is today? What are the chances that I might be laid off from my job? The *Handbook* gives information, wherever possible, on the sensitivity of employment in an occupation to changes in economic conditions. Bear in mind that employment in many—but not all—occupations is affected by economic downturns, and that the outlook for these occupations generally improves as the economy picks up. Other occupations—programmers, systems analysts, and computer operators are prime examples—are less vulnerable to short-term changes in economic activity. Their growth or decline is influenced by other factors discussed in this section.

The information in the job outlook section should be used carefully. The prospect of relatively few openings, or of strong competitions, in a field that interests you should make you take a second look at your career choice. But this information alone should not prevent you from pursuing a particular career, if you feel confident in your ability and are determined to reach your goal.

Remember, even occupations that are small provide some jobs. So do occupations in which employment is growing very slowly or even declining, for there is always a need to replace workers who transfer to another occupation or leave the labor force. If the occupation is large, the number of job openings arising from replacement needs can be substantial. Secretaries, retail trade salesworkers, and kindergarten and elementary school teachers are examples of occupations that provide a significant number of job openings each year as workers leave. On the average, openings resulting from replacement needs are expected to account for the vast majority of all job openings in the next 10 years.

Also keep in mind that no one can predict future labor market conditions with perfect accuracy. In every occupation and industry, the number of jobseekers and job openings constantly changes. A rise or fall in the demand for a product or service affects the number of workers needed to produce it. New inventions and technological innovations create some jobs and eliminate others. Changes in the size or age distribution of the population, work attitudes, training opportunities, and retirement programs determine the number of available workers. As these forces interact in the labor market, some occupations experience a shortage of workers, some a surplus, and some a balance between jobseekers and job openings. Methods used by economists to develop information on future occupational prospects differ, and judgments that go into any assessment of the future also differ. For every occupation covered in the *Handbook*, an estimate of future employment needs is developed. These estimates are consistent with a set of assumptions about the future of the economy and the country. For an explanation of how these projections are developed, see the chapter entitled Assumptions and Methods Used in Preparing the Employment Projections.

Finally, job prospects in your community or State may not correspond to the description of the job outlook in the *Handbook*. For the particular job you are interested in, the outlook in your area may be better or worse. The *Handbook* does not discuss the outlook in local areas; such information has been developed, however, by many States and localities. The local office of your State employment service is the best place to ask about local area employment projections. Names and addresses of sources and suggestions for additional information on the job market are given in the following chapter, Where to Go for More Information.

**Earnings.** This section helps answer many of the questions that you may ask when choosing a career. Will the income be high enough to maintain the standard of living I want and to justify my training costs? How much will my earnings increase as I gain experience? Do some areas of the country or some industries offer better pay than others for the same type of work? Remember to look at both money income and *fringe benefits*, which often are a substantial part of total earnings.

About 9 out of 10 workers receive money income in the form of a *wage* or *salary*. Often, wage and salary workers who work overtime, irregular hours, or on the night shift receive an additional percentage of their regular wage or salary.

Some workers, such as waiters and waitresses, also receive tips based on the services they provide to customers. Automobile sales workers and real estate agents are among workers who are paid a commission—a percent of the amount they sell. Factory workers are sometimes paid a piece rate—a set amount for each item they produce.

The remaining 10 percent of all workers are in business for themselves and earn *self-employment* income instead of, or in addition to, a wage or salary. Self-employed workers keep the income that exceeds the expenses they incur in carrying out their job. Physicians, barbers, photographers, and lawyers are examples of workers who are frequently self-employed.

Some occupations may offer a chance to supplement their wage or salary income with self-employment income. For example, electricians and carpenters often do small repair or remodeling jobs during evenings or weekends, and college professors frequently are paid for articles they publish based on their independent research.

Besides money income, most wage and salary workers receive a variety of *fringe benefits* as part of their earnings on the job. In addition to those required by Federal and State law, such as social security, workers' compensation, and unemployment insurance, fringe benefits usually include paid vacations and holidays, and, often, sick leave. In addition, many workers are covered by life, health, and accident insurance; retirement plans; and supplemental unemployment benefits. All of these benefits are provided—in part or in full—by their employers. Some employers also offer stock options and profit-sharing plans, saving plans, and bonuses.

Workers in many occupations receive part of their earnings in the form of goods and services, or *payments in kind*. Sales workers in department stores, for example, often receive discounts on merchandise. Some private household workers receive free meals and housing. Flight attendants and other airline employees often are entitled to reduce fares for themselves and their families on their own and other airlines. Workers in other jobs may receive uniforms, business expense accounts, or use of a company car.

Which jobs pay the most? This is a difficult question to answer because good information is available for only one type of earnings—wages and salaries—and for some occupations even this is unavailable. Nevertheless, the *Handbook* does include some comparisons of earnings among occupations. Generally, earnings are compared to the average earnings of workers in private industry who are not supervisors and not in farming. This group represented about 60 percent of all workers in 1980.

Besides differing among occupations, pay levels may differ within each occupation. Beginning workers almost always earn less than experienced workers (table 1). Earnings in an occupation usually vary by geographic area as

**Table 1. Career ladder of drafters**

| | **Average annual earnings, 1980** |
|---|---|
| Tracers (beginners) | $10,200 |
| Experienced drafters | 11,700–17,200 |
| Senior drafters | 21,700 |

SOURCE: Bureau of Labor Statistics.

**Table 2. Average weekly earnings of beginning computer programmers, 1980, selected cities**

| City | Earnings |
|---|---|
| Detroit | $346.50 |
| Miami | 321.50 |
| Los Angeles | 314.50 |
| Chicago | 311.00 |
| Houston | 308.50 |
| Milwaukee | 291.00 |
| Minneapolis-St. Paul | 289.50 |
| Dallas | 282.00 |
| Baltimore | 276.00 |
| Boston | 258.00 |

SOURCE: Bureau of Labor Statistics.

well (table 2). The average weekly earnings of beginning computer programmers, for example, vary considerably from city to city. Of the 10 cities listed, the highest earnings occurred in Detroit, Mich., and the lowest in Boston, Mass. Although it is generally true that earnings are higher in the North Central and Northeast regions than in the West and South, there are exceptions. You also should keep in mind that the cities that offer the highest earnings often are those in which it is most expensive to live. Salaries also vary by the specialty or type of work performed. For example, surgeons earn more on the average than any other medical specialty (table 3).

Because of all these variations in earnings, you should check with a counselor or with local employers if you are interested in specific information for occupations in your area.

**Related occupations.** If you find that an occupation you are reading about appeals to you, you also may wish to explore the jobs listed in this section. Usually, the related occupations are those that require similar aptitudes, interests, and education and training.

**Sources of additional information.** The *Handbook* is only one source of career information. Many associations, government agencies, unions, and other organizations provide useful information on careers. In this section, names and addresses of various organizations are listed to help you further your research into careers that interest you. The next chapter of the *Handbook* Where to Go for More Information—also suggests ways to learn more about jobs.

**Table 3. Estimated annual earnings of private physicians, 1980, by speciality**

| Specialty | Earnings[1] |
|---|---|
| Surgery | $94,100 |
| Anesthesiology | 84,800 |
| Obstetrics/gynecology | 80,000 |
| Internal medicine | 72,600 |
| General practice | 60,300 |
| Pediatrics | 59,100 |

[1] After tax-deductible expenses but before income taxes.

SOURCES: American Medical Association; Bureau of Labor Statistics.

# Where to Go for More Information

Whether you have questions about a particular job or are trying to compare various fields, the *Occupational Outlook Handbook* is a good place to begin. The *Handbook* will answer many of your initial questions. But remember that it is only one of many sources of information about jobs and careers. After reading a few *Handbook* statements, you may decide that you want more detailed information about a particular occupation. You may want to find out where you can go for training, or where you can find this kind of work in your community. If you are willing to make an effort, you will discover that a wealth of information is available.

## Sources of Career Information

**Government agencies, professional societies, trade associations, labor unions, corporations, and educational institutions** put out a great deal of free or low-cost career material. Write for information to the organizations listed in the Sources of Additional Information section at the end of every *Handbook* statement. Other organizations that publish career information are listed in directories in your library's reference section. One of the largest directories is *Encyclopedia of Associations* (Detroit: Gale Research Company, 1980), a multivolume publication that lists thousands of trade associations, professional societies, labor unions, and fraternal and patriotic organizations. There are dozens of other directories, however. Ask the librarian for help in locating directories that list:

—trade associations.
—professional associations.
—business firms.
—community and junior colleges.
—colleges and universities.
—home study and correspondence programs.
—business, trade, and technical schools.

Lists of organizations that distribute career information also may be found in books and directories put out by several commercial publishers.

*A Counselor's Guide to Occupational Information*, published in 1980 by the U.S. Department of Labor, identifies pamphlets, brochures, monographs, and other career guidance publications prepared by Federal agencies. An invaluable resource for students and jobseekers as well as for counselors, *A Counselor's Guide* can be purchased for $4.00 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Orders should include the GPO stock number, 029-001-02490-8.

The National Audiovisual Center, a central source for all audiovisual material produced by the U.S. Government, provides lists of free materials in a number of subject areas, including career education. Contact the National Audiovisual Center, General Services Administration, Reference Section/PR, Washington, D.C. 20409. Phone: (301) 763-1896.

Carefully assess any career materials you obtain. Keep in mind the date and source, in particular. Material that is too old may contain obsolete or even misleading information. Be especially cautious about accepting information on employment outlook, earnings, and training requirements if it is more than 5 years old. The source is important because it affects the content. Although some occupational materials are produced solely for the purpose of objective vocational guidance, others are produced for recruitment purposes. You should be wary of biased information, which may tend to leave out important items, overglamorize the occupation, overstate the earnings, or exaggerate the demand for workers.

**Libraries, career centers, and guidance offices** are important sources of career information. Thousands of books, brochures, magazines, and audiovisual materials are available on such subjects as occupations, careers, self-assessment, and job hunting. Your school library or guidance office is likely to have some of this material; ask the staff for help. Collections of occupational material also can be found in public libraries, college libraries, learning resource centers, and career counseling centers.

Begin your library search by looking in an encyclopedia under "vocations" or "careers," and then look up specific fields. The card catalog will direct you to books on particular careers, such as architect or plumber. Be sure to check the periodical section, too. You'll find trade and professional magazines and journals in specific areas such as automotive mechanics or interior design. Some magazines have classified advertising sections that list job openings. Many libraries and career centers have pamphlet files for specific occupations. Collections of occupational information may also include nonprint materials such as films, filmstrips, cassettes, tapes, and kits. Computerized occupational information systems enable users to obtain career information instantly. In addition to print and nonprint materials, most career centers and guidance offices offer individual counseling, group discussions, guest speakers, field trips, and career days.

**Counselors** play an important role in providing career information. Vocational testing and counseling are available in a number of places, including:

—guidance offices in high schools.
—career planning and placement offices in colleges.
—placement offices in vocational schools.
—vocational rehabilitation agencies.
—counseling services offered by community organizations, commercial firms, and professional consultants.
—Job Service offices affiliated with the U.S. Employment Service.

The reputation of a particular counseling agency should be checked with professionals in the field. As a rule, counselors will not tell you what to do. Instead, they are likely to administer interest inventories and aptitude tests; interpret the results; talk over various possibilities; and help you explore your options. Counselors are familiar with the job market and also can discuss entry requirements and costs of the schools, colleges, or training programs that offer preparation for the kind of work in which you are interested. Most important of all, a counselor can help you consider occupational information in relation to your own abilities, aspirations, and goals.

Don't overlook the importance of **personal contacts.** Talking with people is one of the best ways of learning about an occupation. Most people are glad to talk about what they do and how well they like their jobs. Have specific questions lined up; you might question workers about their personal experiences and knowledge of their field. By asking the right questions, you will find out what kind of training is really important, how workers got their first jobs as well as the one they're in now, and what they like and dislike about the work. These interviews serve several purposes: you get out into the business world, you learn about an occupation, you become familiar with interviewing, and you meet people worth contacting when you start looking for a job.

**State occupational information coordinating committees** can help you find information about the job situation in your State or area. By contrast, the *Handbook* provides information for the Nation as a whole. The committee may provide the information directly, or refer you to other sources. In many States, it can also tell you where you can go to use the State's career information system. To find out what career materials are available, write to the director of your State occupational information coordinating committee. Following are their addresses and telephone numbers:

**Alabama**

Director, Alabama Occupational Information Coordinating Committee, First Southern Towers, Suite 402, 100 Commerce St., Montgomery, Ala. 36130. Phone: (205) 832-5737.

**Alaska**

Coordinator, Alaska Occupational Information Coordinating Committee, Pouch F — State Office Bldg., Juneau, Alaska 99811. Phone: (907) 465-2980.

**Arizona**

Executive Director, Arizona State Occupational Information Coordinating Committee, 1535 West Jefferson, Room 345, Phoenix, Ariz. 85007. Phone: (602) 255-3680.

**Arkansas**

Director, Arkansas State Occupational Information Coordinating Committee, P.O. Box 2981, Little Rock, Ark. 72203. Phone: (501) 371-3551.

**California**

Executive Director, California Occupational Information Coordinating Committee, 1027 10th Street, No. 302, Sacramento, Calif. 95814. Phone: (916) 323-6544.

**Colorado**

Director, Office of Occupational Information, Colorado Occupational Information Coordinating Committee, 213 Centennial Bldg., 1313 Sherman St., Denver, Colo. 80203. Phone: (303) 866-3335.

**Connecticut**

Executive Director, Connecticut State Occupational Information Coordinating Committee, c/o Elm Hill School, 569 Maple Hill Avenue, Newington, Conn. 06111. Phone: (203) 666-1441.

**Delaware**

Director, State Occupational Information Coordinating Committee of Delaware, Drummond Office Plaza, Suite 3303, Building No. 3, Newark, Del. 19711. Phone: (302) 368-6908.

**District of Columbia**

Executive Director, D.C. Occupational Information Coordinating Committee, 500 C St. NW., Suite 621, Washington, D.C. 20001. Phone: (202) 724-3965.

**Florida**

Director, Florida Occupational Information Coordinating Committee, 325 John Knox Rd., Suite L-500, Tallahassee, Fla. 32303. Phone: (904) 386-6111.

**Georgia**

Executive Director, Georgia Occupational Information Coordinating Committee, 151 Ellis St. NE., Suite 504, Atlanta, Ga. 30303. Phone (404) 656-3117.

**Hawaii**

Executive Director, Hawaii State Occupational Information Coordinating Committee, 1164 Bishop St., Suite 502, Honolulu, Hawaii 96813. Phone: (808) 548-3496.

**Idaho**

Coordinator, Idaho Occupational Information Coordinating Committee, Len B. Jordan Bldg., Room 301, 650 W. State St., Boise, Idaho 83720. Phone: (208) 334-3705.

**Illinois**

Executive Director, Illinois Occupational Information Coordinating Committee, 217 E. Monroe, Suite 203, Springfield, Ill. 62706. Phone: (217) 785-0789.

**Indiana**

Director, Indiana Occupational Information Coordinating Committee, 17 W. Market St., 434 Illinois Bldg., Indianapolis, Ind. 46204. Phone: (317) 232-3625.

**Iowa**

Executive Director, Iowa State Occupational Information Coordinating Committee, 523 E. 12th St., Des Moines, Iowa 50319. Phone: (515) 281-8076.

**Kansas**

Director, Kansas Occupational Information Coordinating Committee, 320 West 7th, Suite D, Topeka, Kans. 66603. Phone: (913) 296-5286.

**Kentucky**

Coordinator, Kentucky Occupational Information Coordinating Committee, 275 E. Main St., D.H.R. Bldg., 2nd Floor East, Frankfort, Ky. 40621. Phone: (502) 564-4258.

**Louisiana**

Director, Louisiana State Occupational Information Coordinating Committee, P.O. Box 44094, Baton Rouge, La. 70804. Phone: (504) 925-3593.

**Maine**

Executive Director, Maine State Occupational Information Coordinating Committee, State House Station 71, Augusta, Maine 04333. Phone: (207) 289-2331.

**Maryland**

Executive Director, Maryland Occupational Information Coordinating Committee, Jackson Towers, Suite 304, 1123 N. Eutaw St., Baltimore, Md. 21201. Phone (301) 383-6350.

**Massachusetts**

Executive Director, Massachusetts Occupational Information Coordinating Committee, Charles F. Hurley Bldg., Government Center, Boston, Mass. 02114. Phone: (617) 727-9740.

**Michigan**

Executive Coordinator, Michigan Occupational Information Coordinating Committee, 309 N. Washington, P.O. Box 30015, Lansing, Mich. 48909. Phone: (517) 373-0363.

**Minnesota**

SOICC Director, Department of Economic Security, 690 American Center Bldg., 150 E. Kellogg Blvd., St. Paul, Minn. 55101. Phone: (612) 296-2072.

**Mississippi**

SOICC Director, Vocational Technical Education, P.O. Box 771, Jackson, Miss. 39205. Phone: (601) 354-6779.

**Missouri**

Director, Missouri Occupational Information Coordinating Committee, 830d E. High St., Jefferson City, Mo. 65101. Phone: (314) 751-2624.

**Montana**

Program Manager, Montana State Occupational Information Coordinating Committee, P.O. Box 1728, Helena, Mont. 59624. Phone: (406) 449-2741.

**Nebraska**

Executive Director, Nebraska Occupational Information Coordinating Committee, W. 300 Nebraska Hall, Lincoln, Nebr. 68588. Phone: (402) 472-2062.

**Nevada**

Director, Nevada Occupational Information Coordinating Committee, Capitol Complex, Kinkead Bldg., Room 601, 505 E. King St., Carson City, Nev. 89710. Phone: (702) 885-4577.

**New Hampshire**

SOICC Director, New Hampshire Occupational Information Coordinating Committee, c/o Department of Employment and Training, 155 Manchester St., Concord, N.H. 03301. Phone (603) 271-3156.

**New Jersey**

Acting Staff Director, New Jersey Occupational Information Coordinating Committee, Department of Labor and Industry, Division of Planning and Research, P.O. Box CN056, Trenton, N.J. 08625. Phone: (609) 292-2626.

**New Mexico**

Director, New Mexico State Occupational Information Coordinating Committee, NEA Building, 130 South Capitol, Suite 157, Santa Fe N.M. 87501. Phone: (505) 827-3411 or 3412.

**New York**

SOICC Director, New York Department of Labor, Labor Department Bldg. #12, State Campus, Room 559A, Albany, N.Y. 12240. Phone: (518) 457-2930.

**North Carolina**

SOICC Director, North Carolina Department of Administration, 112 W. Lane St., 218 Howard Bldg., Raleigh, N.C. 27611. Phone: (919) 733-6700.

**North Dakota**

Director, North Dakota Occupational Information Coordinating Committee, 1424 W. Century Ave., P.O. Box 1537, Bismarck, N. Dak. 58505. Phone: (701) 224-2733.

**Ohio**

Director, Ohio Occupational Information Coordinating Committee, State Department Bldg., 65 S. Front St., Room 904, Columbus, Ohio 43215. Phone: (614) 466-2095.

### Oklahoma

Executive Director, Oklahoma Occupational Information Coordinating Committee, School of Occupational and Adult Education, Oklahoma State University, 1515 W. 6th St., Stillwater, Okla. 74074. Phone: (405) 377-2000, ext. 311.

### Oregon

Coordinator, Oregon Occupational Information Coordinating Committee, 875 Union St., NE., Salem, Oreg. 97311. Phone: (503) 378-8146.

### Pennsylvania

Director, Pennsylvania Occupational Information Coordinating Committee, Labor and Industry Bldg., 7th and Forster Sts., Room 1008, Harrisburg, Pa. 17120. Phone: (717) 787-3467.

### Puerto Rico

Executive Director, Puerto Rico Occupational Information Coordinating Committee, Cond. El Centro II, Suite 224, Munoz Rivera Ave., Hato Rey, P. R. 00918. Phone: (809) 753-7110.

### Rhode Island

Executive Director, Rhode Island Occupational Information Coordinating Committee, 22 Hayes St., Room 315, Providence, R.I. 02908. Phone: (401) 272-0830.

### South Carolina

Director, South Carolina Occupational Information Coordinating Committee, 1550 Gadsden St., Columbia, S.C. 29202. Phone: (803) 758-3165.

### South Dakota

Executive Director, South Dakota Occupational Information Coordinating Committee, 108 E. Missouri, Pierre, S. Dak. 57501. Phone: (605) 773-3935.

### Tennessee

Director, Tennessee Occupational Information Coordinating Committee, 512 Cordell Hull Bldg., Nashville, Tenn. 37219. Phone: (615) 741-6451.

### Texas

Executive Director, Texas Occupational Information Coordinating Committee, Texas Employment Commission Bldg., 15th and Congress, Room 526T, Austin, Tex. 78778. Phone: (512) 397-4970.

### Utah

Director, Utah Occupational Information Coordinating Committee, Elks Club Bldg., Suite 6003, 139 East South Temple, Salt Lake City, Utah 84111. Phone: (801) 533-2028.

### Vermont

Director, Vermont Occupational Information Coordinating Committee, P.O. Box 488, Montpelier, Vt. 05602. Phone: (802) 229-0311.

### Virginia

SOICC Director, Virginia Vocational and Adult Education, Department of Education, P.O. Box 6Q, Richmond, Va. 23216. Phone: (804) 225-2735.

### Washington

SOICC Director, Washington Commission for Vocational Education, Bldg. 17, Airdustrial Park, Mail Stop LS-10, Olympia, Wash. 98504. Phone: (206) 754-1552.

### West Virginia

Executive Director, West Virginia State Occupational Information Coordinating Committee, 1600 1/2 Washington St., E., Charleston, W. Va. 25311. Phone: (304) 348-0061.

### Wisconsin

Director, Wisconsin Occupational Information Coordinating Committee, Educational Sciences Bldg., Room 952, 1025 W. Johnson, Madison, Wis. 53706. Phone: (608) 263-1048.

### Wyoming

Director, Wyoming Occupational Information Coordinating Committee, Hathaway Bldg. — Basement, 2300 Capitol Ave., Cheyenne, Wyo. 82002. Phone: (307) 777-7177 or 7178.

### American Samoa

Executive Director, American Samoa SOICC, Governor's Office, American Samoa Government, Pago Pago, American Samoa 96799.

### Guam

Acting Executive Director, Guam Occupational Information Coordinating Committee, P.O. Box 2817, Agana, Guam 96910. Phone: (617) 477-8941.

### Northern Mariana Islands

Executive Director, Northern Mariana Islands Occupational Information Coordinating Committee, P.O. Box 149, Saipan, Northern Mariana Islands 96950. Phone: 7136.

### Trust Territory of the Pacific

Director, Trust Territory of the Pacific Islands, Occupational Information Coordinating Committee, Office of Planning and Statistics, Saipan, Mariana Islands 96950.

### Virgin Islands

Director, Virgin Islands Occupational Information Coordinating Committee, Department of Education, P.O. Box 630, Charlotte Amalie, St. Thomas, Virgin Islands 00801. Phone: (809) 774-0100, ext. 211.

## Sources of Education and Training Information

As a rule, professional or trade associations can provide lists of schools that offer training in a particular field—operations research, publishing, or arts management, for example. Whenever possible, the Sources of Additional Information section at the end of every *Handbook* statement directs you to organizations that can provide training information. For general information, a library, career center, or guidance office may be the best place to look; all of them ordinarily have collections of catalogs, directories, and guides to educational and job training opportunities. The State career information system available in many States can also provide specific information on where to go for training in various fields. These systems are located in school guidance offices, Job Service offices, and other places. You can find out about the career information system in your State by writing or calling the State occupational information coordinating committee.

A number of standard handbooks give pertinent information on courses of study, admissions requirements, expenses, and student financial aid at the Nation's 2-year and 4-year colleges and universities. Publishers include the College Board, Barrons, and Chronicle Guidance, among others. School and public libraries almost always have copies, as do large bookstores. Remember that these directories are updated and revised frequently; be sure to use the most recent edition. Libraries and guidance offices often have collections of college catalogs as well.

Information on private trade and technical schools is available from the National Association of Trade and Technical Schools (NATTS). Single copies of two of their publications, *Handbook of Trade and Technical Careers and Training* and *How to Choose a Career and a Career School*, can be obtained from NATTS at 2021 K St. NW., Washington, D.C. 20006. Phone: (202) 296-8892.

The National Home Study Council supplies information about home study programs. They distribute *Directory of Accredited Home Study Schools* (free) and *There's a School in Your Mail Box* ($5.00, including postage). Requests for these publications should be directed to National Home Study Council, 1601 18th St. NW., Wahsington, D.C. 20009. Phone: (202) 234-5100.

Labor unions and school guidance offices can provide information about apprenticeships. Local Job Service offices usually have at least one counselor familiar with apprenticeship programs in the area. In some cities, Apprenticeship Information Centers (AIC's) affiliated with the U.S. Employment Service furnish information, counseling, and aptitude testing, and direct people for more specific help to union hiring halls, Joint Apprenticeship Committees, and employer sponsors. The local Job Service can tell you whether there's an AIC in your community. The U.S. Department of Labor's Bureau of Apprenticeship and Training has prepared several pamphlets that provide background information on apprenticeship. These may be requested from: Office of Information, Inquiries Unit, Employment and Training Administration, U.S. Department of Labor, Room 10225, 601 D St. NW., Washington, D.C. 20213. Phone: (202) 376-6730.

## Sources of Financial Aid Information

If possible, consult a high school guidance counselor or college financial aid officer for advice on sources of financial aid. Don't neglect any possibility, for many organizations offer scholarships, fellowships, grants, loans, and work–study programs. Study the directories and guides to sources of student financial aid available in guidance offices and public libraries. Many career information systems also provide information on financial aid.

Particularly useful is the American Legion's *Need a Lift?*, a booklet containing career and scholarship information for both undergraduate and graduate students. The 1982 edition costs $1.00 prepaid (includes postage) and can be obtained from: American Legion, Attn: Emblem Sales, P.O. Box 1055, Indianapolis, Ind. 46206.

*Meeting College Costs*, a College Board publication that is updated annually, explains how to apply for student financial aid. High school students should ask their guidance counselors for the current edition. Others can request a free copy, and a listing of other College Board publications on student financial aid, from:

College Board Publication Orders, Box 2815, Princeton, N.J. 08541.

The Federal Government provides several kinds of financial assistance to students: Grants, loans, work–study, and benefits. Information about programs administered by the U.S. Department of Education is presented in a pamphlet entitled, *Five Federal Financial Aid Programs, 1981–82; A Student Consumer's Guide*. This pamphlet is revised every year; request the current edition by calling, toll–free, 800–638–6700 (residents of Maryland should call 800–492–6602), or by writing to:

Bureau of Student Financial Assistance, P.O. Box 84, Washington, D.C. 20044.

Federal financial aid for students in the health professions is administered by the U.S. Department of Health and Human Services. Currently, major programs include Health Education Assistance Loans (HEAL), Health Profession Student Loans, Nursing Student Loans, and National Health Service Corps Scholarships. The financial aid office at the school in which you are enrolled, or plan to enroll, can provide information on eligibility requirements and application procedures. Information about National Health Service Corps Scholarships also can be obtained by calling, toll-free, 1–800–638–0824. Residents of Alaska, Hawaii, and Maryland can call collect, 0–301–436–6453, between 8:30 a.m. and 5:00 p.m. Eastern time, Monday through Friday, except Federal holidays. Persons in the Washington, D.C. metropolitan area can call 436–6450.

Some student aid programs are designed to assist specific groups: Hispanics, blacks, Native Americans, or women, for example. *Selected List of Postsecondary Education Opportunities for Minorities and Women*, published annually by the U.S. Department of Education, is a useful guide to organizations that offer loan, scholarship, and fellowship assistance, with special emphasis on aid for minorities and women. Opportunities for financial aid are listed by field of study, including architecture, arts and science, business, education, engineering and science, health, international affairs, journalism, law, political science and public administration, psychology, sociology, social work, speech pathology and audiology, and theology. Educational opportunities with the Armed Forces are also described. This publication can be found in many libraries and guidance offices, or may be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Price for the 1981 edition is $6.00 and the GPO stock number is 065–000–00118–7.

## Career and Counseling Information for Special Groups

Certain groups of jobseekers face special difficulties in obtaining suitable and satisfying employment. All too often, veterans, youth, handicapped persons, minorities, and women experience difficulty in the labor market. The reasons for disadvantage in the job market vary, of course. People may have trouble setting career goals and looking for work for reasons as different as a limited command of English, a prison record, or lack of self-confidence. Some people are held back by their background—by growing up in a setting that provided only a few role models and little exposure to the wide range of opportunities in the world of work.

A growing number of communities have career counseling, training, and placement services for people with special needs. Programs are sponsored by a variety of organizations, including churches and synagogues, nonprofit organizations, social service agencies, the Job Service, and vocational rehabilitation agencies. Some of the most successful programs provide the extensive counseling that disadvantaged jobseekers require. They begin by helping clients resolve the personal, family, or other fundamental problems that prevent them from finding a suitable job. Some agencies that serve special groups take a strong interest in their clients, and provide an array of services designed to help people find and keep jobs.

Employment counseling programs of all kinds are included in *Directory of Counseling Services*, an annual publication that lists accredited or provisional members of the International Association of Counseling Services, Inc. (IACS), an affiliate of the American Personnel and Guidance Association. The 1981–82 edition is available for $6 (including postage) from IACS at Two Skyline Place, Suite 400, 5203 Leesburg Pike, Falls Church, Virginia 22041. Phone: (703) 820–4710.

Women's centers are an excellent resource for women seeking employment and counseling on specific problems that women face in the labor market. Many women's centers are located on campuses of community and junior colleges and universities. Although some have a strong academic slant, many have outreach programs designed to provide services to all women in the community. Women's centers are also operated by community organizations. Many of these centers have an emphasis on nontraditional jobs for women, and almost all provide information and referral services.

Most States and many cities and counties have commissions or councils for women, many of which are actively engaged in improving employment opportunities for women in their area. A number of commissions have prepared resource directories for women, and a few operate employment or counseling programs.

Resource materials for women abound. Recent examples include *Directory of Special Opportunities for Women*, *Job Options for Women in the 80's* and *Suit Yourself . . . Shopping for a Job*. The *Directory* published in 1981 by Garrett Park Press (Garrett Park, Maryland), lists sources of career training, financial aid, and other assistance for women entering or reentering the labor force. Look for it in a library, guidance office, or counseling center. *Job Options*, a 1980 publication of the Women's Bureau of the U.S. Department of Labor, is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. The price is $2.25, and the GPO stock number is 029–002–00059–2. *Suit Yourself* was published in 1980 by Wider Opportunities for Women (WOW), a national nonprofit women's employment organization. It can be purchased for $6.00 (includes postage) from WOW, 1619 M St. NW., Washington, D.C. 20036. Phone: (202) 783–5155. *The National Directory of Women's Employment Programs*, also available from WOW, lists 140 women's job action and advocacy organizations in communities throughout the country. Price for the 1979 publication is $8.50, including postage.

*Directory of Special Programs for Minority Group Members: Career Information Services, Employment Skills Banks, Financial Aid Sources* (Garrett Park, Md.: Garrett Park Press), now in its third edition, lists thousands of educational, career, and other services and programs that help minority group members in their educational and career advancement. Look for the 1980 edition in libraries, guidance offices, and counseling centers. Career information for minority group members also appears in specialized magazines including *The Black Collegian* and *Minority Engineer*.

The 1980–81 edition of *Directory of Organizations Interested in the Handicapped* lists more than 150 voluntary and public agencies in the rehabilitation field and briefly describes their purpose, programs, and publications. Copies of the *Directory* may be obtained from the People to People Committee for the Handicapped, 1111 20th St. NW., 6th floor, Washington, D.C. 20210. Phone: (202) 653-5024. State vocational rehabilitation agencies are an important source of career and counseling information for people with disabilities; they are listed in the *Directory*.

Employment counseling and placement services for older workers have been established in some communities. The area agency on aging can tell you whether there is a senior employment program in your community. Local offices of the State employment service may be helpful, too. Information about the small but growing network of nonprofit senior employment agencies can be obtained from the National Association of Older Worker Employment Services, 600 Maryland Ave. SW., West Wing 100, Washington, D.C. 20024. Phone: (202) 479-1200. Case studies describing the operations of specific agencies are available from the National Clearinghouse on Careers for Older Americans, Academy for Educational Development, 680 Fifth Avenue, New York, N.Y. 10019. Phone: (212) 397-0073.

Several agencies of the Federal Government publish pamphlets on career opportunities and job-hunting techniques that may interest counselors working with special groups. Much of this material is free. Requests for career materials currently in stock may be directed to:

### Handicapped

President's Committee on Employment of the Handicapped, Room 600, Vanguard Building, 1111 20th St. NW., Washington, D.C. 20036. Phone: (202) 653-5157.

President's Committee on Mental Retardation, Washington, D.C. 20201.

Rehabilitation Services Administration, U.S. Department of Education, Room 3523, 330 C St. SW., Washington, D.C. 20202.

Office of Personnel Management, Federal Job Information Center, P.O. Box 52, Washington, D.C. 20044. Phone: (202) 737-9616.

### Older Workers

Office of Information, Inquiries Unit, Employment and Training Administration, U.S. Department of Labor, Room 10225, 601 D St. NW., Washington, D.C. 20213. Phone: (202) 376-6730.

### Women

Women's Bureau, U.S. Department of Labor, Room S-3005, 200 Constitution Ave. NW., Washington, D.C. 20210. Phone: (202) 523-6668.

### Veterans

Office of Information, Inquiries Unit, Employment and Training Administration, U.S. Department of Labor, Room 10225, 601 D St. NW., Washington, D.C. 20213. Phone: (202) 376-6730.

Office of Personnel Management, Federal Job Information Center, P.O. Box 52, Washington, D.C. 20044. Phone: (202) 737-9616.

Department of Veterans Benefits (232A), Veterans Administration Central Office, 810 Vermont Ave. NW., Washington, D.C. 20420. Phone: (202) 389-3227.

Federal laws, Executive Orders, and selected Federal grant programs bar discrimination in employment based on race, color, religion, sex, national origin, age, and handicap. Employers in the private and the public sectors, Federal contractors, and grantees are covered by these laws. The U.S. Equal Employment Opportunity Commission (EEOC) is responsible for administering many of the programs that prohibit discrimination in employment. Information about how to file a charge of discrimination is available from local EEOC offices around the country (their addresses and telephone numbers are listed in telephone directories under U.S. Government, EEOC) or from:

Equal Employment Opportunity Commission, 2401 E St. NW., Washington, D.C. 20506. Phone: (202) 634-6930.

Information on Federal laws concerning fair labor standards—including the minimum wage law—and equal employment opportunity can be obtained from the Office of Information and Consumer Affairs, Employment Standards Administration, U.S. Department of Labor, Room C-4331, 200 Constitution Ave. NW., Washington, D.C. 20210.

## Information on Finding a Job

Do you need help in finding a job? For information on job openings, follow up as many leads as possible. Parents, neighbors, teachers, and counselors may know of jobs. Check the want ads. Investigate your local Job Service office and find out whether private or nonprofit employment agencies in your community can help you. The following section will give you some idea of where you can go to look for a job and what sort of help to expect.

**Informal job search methods.** Informal methods of job search are the most popular, and also the most effective. Informal methods include direct application to employers with or without referral by friends or relatives. Jobseekers locate a potential employer and file an application, often without certain knowledge that an opening exists.

You can find targets for your informal search in several ways. The *Yellow Pages* and local chambers of commerce will give the names and addresses of appropriate firms in the community where you wish to work. You can also get listings of most firms in a specific industry—banking, insurance, and newspaper publishing, for example—by consulting one of the directories on the reference shelf of your public library. Friends, relatives, and people you meet during your job search are likely to give you ideas about places where you can apply for a job.

**Want ads.** The "Help Wanted" ads in a major newspaper contain hundreds of job listings. As a job search tool, they have two advantages: They are cheap and easy to acquire, and they often result in successful placement. There are disadvantages as well. Want ads give a distorted view of the local labor market, for they tend to underrepresent small firms. They also tend to overrepresent certain occupations, such as clerical and sales jobs. How helpful they are will depend largely on the kind of job you seek.

Bear in mind that want ads do not provide complete information; many give little or no description of the job, working conditions, and pay. Some omit the identity of the employer. In addition, firms often run multiple listings. Some ads offer jobs in other cities (which do not help the local worker); others advertise employment agencies rather then employment.

If you use the want ads, keep the following suggestions in mind:

—Don't rely exclusively on the want ads; follow up other leads, too.

—Answer ads promptly. The opening may be filled before the ad stops running.

—Follow the ads diligently. Checking them every day as early as possible gives you the best advantage over other applicants, which may mean the difference between a job and a rejection.

—Don't expect too much from "blind ads" that do not reveal the employer's identity. Employers use blind ads to avoid being swamped with applicants, or to fill a particular vacancy quietly and confidentially. The chances of finding a job through blind ads tend to be slim.

—Be cautious about answering "no experience necessary" ads. Most employers are able to fill job openings that do not require experience without advertising in the newspaper. This type of ad may mean that the job is hard to fill because of low wages or poor working conditions, or because it is straight commission work.

**Public employment service.** The public employment service, also called the Job Service, is often overlooked in finding out about local job openings. Run by the State employment security agencies under the direction of the Labor Department's U.S. Employment Service, the 2,500 local Job Service offices provide help without charge. Job Service staff help jobseekers find employment and help employers find qualified workers. As its motto says, the Job Service aims to "bring people to jobs and jobs to people." To find the office nearest you, look in the State government telephone listings under "Job Service" or "Employment."

*Job matching and referral.* Upon entering a Job Service center, an applicant is interviewed to determine the type of work for which he or she indicates an interest and aptitude. The interviewer determines if the applicant is "job ready" or if counseling and testing services are needed. Applicants who know what kind of work they are qualified for may spend some time examining the Job Bank, a computerized listing of public and private sector job openings that is updated every day. The Job Bank is self-service; applicants examine a book or microfilm viewer and select openings that interest them. Afterwards, a Job Service staff member may describe a particular job opening in some detail and arrange for an interview with the prospective employer.

*Counseling and testing.* Job Service centers also help jobseekers who are uncertain about their qualifications and the kind of work they want. Most centers are staffed with a specialist who furnishes complete counseling and testing services. Counselors help jobseekers choose and prepare for an occupation based on their qualifications and interests. They aim to help individuals become aware of their job potential and then develop it. The testing program measures occupational aptitudes, clerical and literary skills, and occupational interests. Testing and counseling before job referral ensure a better match between applicant and job.

*Services for veterans and youth.* By law, veterans are entitled to priority in interviewing, counseling, testing, job development, and job placement. Special counselors called veterans reemployment representatives are trained to deal with the particular problems of veterans, who may find it difficult to readjust to civilian life. Although such veterans often face multiple problems, joblessness alone is a major barrier to resuming an ordinary life. Special help for disabled veterans begins with outreach units in each State, whose job it is to identify jobless disabled veterans and make them aware of the many kinds of assistance available.

To reduce excessive youth unemployment, Job Service centers test, counsel and refer young people to training programs or jobs whenever possible.

*Occupations in Demand.* A monthly publication of the U.S. Department of Labor entitled *Occupations in Demand* highlights occupations for which the Job Bank network reports large numbers of job openings. It also indicates which cities and areas have significant numbers of job openings. An extra edition for students and graduates, published twice a year, lists high-demand occupations for which employers usually request people with high school or postsecondary training. The extra edition also identifies hard-to-fill occupations listed with the Job Service. Copies of *Occupations in Demand* may be found in libraries and counseling centers. Or you can request single free copies from:

Consumer Information Center, Dept. No. 533J,
Pueblo, Colorado 81009.

Annual subscriptions cost $18.00 and can be purchased from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

**Private employment agencies.** In the appropriate section of the classified ads or the telephone book you can find numerous advertisements for private employment agencies. All are in business to make money, but some offer higher quality service and better chances of successful placement than others.

The three main places in which private agencies advertise are newspaper want ads, the *Yellow Pages*, and trade journals. Telephone listings give little more than the name, address, phone number, and specialty of the agency, while trade journals generally advertise openings for a particular occupation, such as accountant or computer programmer. Want ads, then, are the best source of general listings of agencies.

These listings fall into two categories—those offering specific openings and those offering general promise of employment. You should concentrate on the former and use the latter only as a last resort. With a specific opening mentioned in the ad, you have greater assurance of the agency's desire to place qualified individuals in suitable jobs.

When responding to such an ad, you may learn more about the job over the phone. If you are interested, visit the agency, fill out an application, present a resume, and talk with an interviewer. The agency will then arrange an interview with the employer if you are qualified, and perhaps suggest alternative openings if you are not.

Most agencies operate on a commission basis, with the fee contingent upon a successful match. The employer pays agencies advertising "no fees, no contracts" and the applicant pays nothing. Many agencies, however, do charge applicants. You should find out the exact cost before using the service.

**Community agencies.** A growing number of nonprofit organizations throughout the Nation provide counseling, career development, and job placement services. These agencies generally concentrate on services for a particular labor force group—women, youth, minorities, ex-offenders, or older workers, for example. Some of these agencies are listed in directories already mentioned in the section on Career and Counseling Information for Special Groups.

It's up to you to discover whether your community has such agencies and whether they can help you. The local Job Service center should be able to tell you whether such an agency has been established in your community. Your church, synagogue, or local library may have the information, too.

**College career planning and placement offices.** For those who have access to them, career planning and placement offices at colleges and universities offer valuable services. College placement offices function as more than just employment agencies; they provide career counseling and also teach students to acquire jobseeking skills. They emphasize writing resumes and letters of application, preparing for interviews, and other aspects of job search. College placement offices offer other services, too. At larger campuses they bring students and employers together by providing schedules and facilities for interviews with industry recruiters. Many offices also maintain lists of local part-time and temporary jobs, and some have files of summer openings.

## Labor Market Information

All 50 States, and the District of Columbia, develop detailed information about the labor market. Typically, State agencies publish reports that deal with future occupational supply, characteristics of the work force, changes in State and area economic activities, and the employment structure of important industries. For all States, and for nearly all Standard Metropolitan Statistical Areas (SMSA's) of 50,000 inhabitants or more, data are available that show current employment as well as estimated future needs. Each State issues a report covering current and future employment for hundreds of industries and occupations. In addition, major statistical indicators of labor market activity are released by all of the States on a monthly, quarterly, and annual basis. For information on the various labor market studies, reports, and analyses available in a specific State, contact the chief of research and analysis in the State employment security agency. Titles, addresses, and telephone numbers are as follows:

### Alabama

Chief, Research and Statistics, Department of Industrial Relations, Industrial Relations Bldg., 649 Monroe St., Montgomery, Ala. 36130. Phone: (205) 832-5263.

### Alaska

Chief, Research and Analysis, Employment Security Division, Department of Labor, P.O. Box 3-7000, Juneau, Alaska 99802. Phone: (907) 465-4505.

### Arizona

Chief, Labor Market Information, Research and Analysis, Department of Economic Security, P.O. Box 6123, Phoenix, Ariz. 85005. Phone: (602) 255-3616.

### Arkansas

Chief, Research and Analysis, Employment Security Division, P.O. Box 2981, Little Rock, Ark. 72203. Phone: (501) 371-1541.

### California

Chief, Employment Data and Research Division, Employment Development Department, P.O. Box 1679, Sacramento, Calif. 95808. Phone: (916) 445-4434.

**Colorado**

Chief, Research and Development, Division of Employment and Training, Department of Labor and Employment, 1278 Lincoln St., Denver, Colo. 80203. Phone: (303) 866-6316.

**Connecticut**

Director, Research and Information, Employment Security Division, 200 Folly Brook Blvd., Hartford, Conn. 06115. Phone: (203) 566-2120.

**Delaware**

Chief, Office of Planning, Research and Evaluation, Department of Labor, Bldg. D., Chapman Rd., Route 273, Newark, Del. 19713. Phone: (302) 368-6962.

**District of Columbia**

Chief, Labor Market Information, Research and Analysis, D.C. Department of Labor, 605 G St. NW., Room 1000, Washington, D.C. 20001. Phone: (202) 724-2413.

**Florida**

Chief, Research and Analysis, Florida Department of Labor and Employment Security, Caldwell Bldg., Tallahassee, Fla. 32301. Phone: (904) 488-6037.

**Georgia**

Director, Labor Information Systems, Employment Security Agency, Department of Labor, 254 Washington St. SW., Atlanta, Ga. 30334. Phone: (404) 656-3177.

**Hawaii**

Chief, Research and Statistics, Department of Labor and Industrial Relations, P.O. Box 3680, Honolulu, Hawaii 96811. Phone: (808) 548-7639.

**Idaho**

Chief, Research and Analysis, Department of Employment, P.O. Box 35, Boise, Idaho 83707. Phone: (208) 384-2755.

**Illinois**

Manager, Research and Analysis Division, Bureau of Employment Security, Department of Labor, 910 S. Michigan Ave., Chicago, Ill. 60605. Phone: (312) 793-2316.

**Indiana**

Chief of Research, Employment Security Division, 10 N. Senate Ave., Indianapolis, Ind. 46204. Phone: (317) 232-7702.

**Iowa**

Chief, Research and Analysis, Department of Job Service, 1000 E. Grand Ave., Des Moines, Iowa 50319. Phone: (515) 281-8181.

**Kansas**

Chief, Research and Analysis, Division of Employment, Department of Human Resources, 401 Topeka Ave., Topeka, Kans. 66603. Phone: (913) 296-5060.

**Kentucky**

Chief, Research and Statistics, Department of Human Resources, 275 E. Main St., Frankfort, Ky. 40621. Phone: (502) 564-7976.

**Louisiana**

Chief, Research and Statistics, Department of Employment Security, P.O. Box 44094, Baton Rouge, La. 70804. Phone: (504) 342-3141.

**Maine**

Director, Manpower Research Division, Employment Security Commission, 20 Union St., Augusta, Maine 04330. Phone: (207) 289-2271.

**Maryland**

Director, Research and Analysis, Department of Human Resources, 1100 N. Eutaw St., Baltimore, Md. 21201. Phone: (301) 383-5000.

**Massachusetts**

Director, Job Market Research, Division of Employment Security, Hurley Bldg., Government Center, Boston, Mass. 02114. Phone: (617) 727-6556.

**Michigan**

Director, Research and Statistics Division, Employment Security Commission, 7310 Woodward Ave., Detroit, Mich. 48202. Phone: (313) 876-5445.

**Minnesota**

Director, Research and Statistical Services, Department of Economic Security, 390 N. Robert St., St. Paul, Minn. 55101. Phone: (612) 296-6545.

**Mississippi**

Chief, Research and Statistics Division, Employment Security Commission, P.O. Box 1699, Jackson, Miss. 39205. Phone: (601) 961-7424.

**Missouri**

Chief, Research and Statistics, Division of Employment Security, Department of Labor and Industrial Relations, P.O. Box 59, Jefferson City, Mo. 65101. Phone: (314) 751-3215.

**Montana**

Chief, Reports and Analysis, Employment Security Division, P.O. Box 1728, Helena, Mont. 59601. Phone: (406) 449-2430.

**Nebraska**

Chief, Research and Statistics, Division of Employment, Department of Labor, P.O. Box 94600, Lincoln, Nebr. 68509. Phone: (402) 475-8451.

**Nevada**

Chief, Employment Security Research, Employment Security Department, 500 E. Third St., Carson City, Nev. 89713. Phone: (702) 885-4550.

**New Hampshire**

Director, Economic Analysis and Reports, Department of Employment Security, 32 S. Main St., Concord, N.H. 03301. Phone: (603) 224-3311, ext. 251.

**New Jersey**

Director, Division of Planning and Research, Department of Labor and Industry, P.O. Box 2765, Trenton, N.J. 08625. Phone: (609) 292-2643.

**New Mexico**

Chief, Research and Statistics, Employment Services Division, P.O. Box 1928, Albuquerque, N. Mex. 87103. Phone: (505) 842-3105.

**New York**

Director, Division of Research and Statistics, Department of Labor, State Campus, Bldg. 12, Albany, N.Y. 12240. Phone: (518) 457-6181.

**North Carolina**

Director, Bureau of Employment Security. Research Employment Security Commission, P.O. Box 25903, Raleigh, N.C. 27611. Phone: (919) 733-2936.

**North Dakota**

Chief, Research and Statistics, Employment Security Bureau, P.O. Box 1537, Bismarck, N.Dak. 58505. Phone: (701) 224-2868.

**Ohio**

Director, Division of Research and Statistics, Bureau of Employment Services, 145 S. Front St., Columbus, Ohio 43216. Phone: (614) 466-3240.

**Oklahoma**

Chief, Research and Planning Division, Employment Security Commission, 310 Will Rogers Memorial Office Bldg., Oklahoma City, Okla. 73105. Phone: (405) 521-3735.

**Oregon**

Assistant Administrator, Research and Statistics, Employment Division, 875 Union St. NE., Salem, Oreg. 97311. Phone: (503) 378-3220.

**Pennsylvania**

Director, Research and Statistics, Bureau of Employment Security, Department of Labor and Industry, 7th and Forster Sts., Harrisburg, Pa. 17121. Phone: (717) 787-3265.

**Puerto Rico**

Chief, Research and Statistics, Bureau of Employment Security, 505 Munoz Rivera Ave., Hato Rey, P.R. 00918. Phone: (809) 754-5385.

**Rhode Island**

Supervisor, Employment Security Research, Department of Employment Security, 24 Mason St., Providence, R.I. 02903. Phone: (401) 277-3704.

**South Carolina**

Director, Manpower Research and Analysis, Employment Security Commission, P.O. Box 995, Columbia, S.C. 29202. Phone: (803) 758-8983.

**South Dakota**

Chief, Research and Statistics, Office of Administrative Services, Department of Labor, P.O. Box 1730, Aberdeen, S. Dak. 57401. Phone: (605) 622-2314.

### Tennessee

Chief, Research and Statistics, Department of Employment Security, Cordell Hull Office Bldg., Room 519, Nashville, Tenn. 37219. Phone: (615) 741-2284.

### Texas

Chief, Economic Research and Analysis, Employment Commission, 1117 Trinity St., Austin, Tex. 78701. Phone: (512) 397-4540.

### Utah

Director, Research and Analysis, Department of Employment Security, P.O. Box 11249, Salt Lake City, Utah 84147. Phone: (801) 533-2014.

### Vermont

Chief, Research and Statistics, Department of Employment Security, P.O. Box 488, Montpelier, Vt. 05602. Phone: (802) 229-0311.

### Virginia

Commissioner, Virginia Employment Commission, P.O. Box 1358, Richmond, Va. 23211. Phone: (804) 786-3001.

### Washington

Chief, Research and Statistics, Employment Security Department, 212 Maple Park, Olympia, Wash. 98504. Phone: (206) 753-5224.

### West Virginia

Chief, Labor and Economic Research, Department of Employment Security, 112 California Ave., Charleston, W. Va. 25305. Phone: (304) 885-2660.

### Wisconsin

Director, Research and Statistics, Department of Industry, Labor and Human Relations, P.O. Box 7944, Madison, Wis. 53707. Phone: (608) 266-7034.

### Wyoming

Chief, Reports and Analysis, Employment Security Commission, P.O. Box 2760, Casper, Wyo. 82601. Phone: (307) 237-3703.

# Tomorrow's Jobs

Constant change is one of the most significant aspects of the U.S. job market. Changes in the size, age structure, and geographic location of the population, the introduction of new technology or business practices, and changes in the needs and tastes of the public continually alter the economy and affect employment opportunities in all occupations. Population growth has spurred the need for workers to provide more housing, medical care, education, and other services and goods. The use of new technology has created, eliminated, or changed the nature of hundreds of thousands of jobs. The computer, for example, has given birth to an entire new group of occupations—programmers, systems analysts, computer and peripheral equipment operators—while at the same time it has decreased the need for inventory clerks, bookkeepers, and other clerical works. Changes in the way businesses are organized and managed have had similar effects. For example, the use of centralized credit offices has reduced the need for credit managers in retail stores.

As an individual planning for a career, you should learn about changes that are expected to occur in the job market. Your interests and abilities determine the occupation that attracts you, but future economic and social conditions will determine possible job opportunities. Fortunately, most changes that alter the demand for workers in various occupations generally occur gradually over several years. By analyzing the changing nature of the economy and the factors causing these changes it is possible to project future industry and occupational employment. Although no one can forecast the future with certainty, these employment projections can help you learn about future opportunities in occupations that interest you.

The *Handbook* presents information about the job outlook for many occupations. This chapter provides a background for those discussions. In it you will find information about expected changes in the population and the labor force, as well as employment projections for major industrial sectors and broad occupational groups.

## Population

Changes in population are among the basic factors that will affect employment opportunities in the future. The demand for workers in any occupation depends ultimately on the goods and services sought by the public. Changes in the size and characteristics of the population influence the amount and types of goods and services demanded. Changes in population also affect the size and characteristics of the labor force—the people who work or are available to work—which in turn can influence the amount of competition for jobs in an occupation. Three population factors that will affect future employment opportunities are population growth, shifts in the age structure of the population, and movement of the population within the country.

*Population Growth*. The population of the United States has increased throughout the century. However, the rate of growth (the size of the annual increases) was declining until the post-World War II "baby boom," which lasted until the late 1950's. Since the 1960's, the rate of growth has declined again (chart 1).

In 1980, the population was 226.5 million. It is expected to increase by about 0.9 percent a year during the 1980's, slightly faster than during the 1970's. Continued growth will mean more people to provide with goods and services, causing greater demand for workers in many industries. The effects of population growth on employment in various occupations will differ. These differences are accounted for in part by the age distribution of the future population.

*Age Structure*. Because of the "baby boom," the proportion of people age 14 to 24 was high in the 1970's. Through the 1980's, as these young adults become older, the proportion of the population between the ages of 25 and 44 will swell. By 1990, nearly one-third of the population will be in this age group compared to 24 percent in 1970. As a result of the relatively low number of births during the 1960's and early 1970's, the number of people between the ages of 14 and 24 will decline in the coming decade. The number of people 65 and over will grow, but more slowly than in recent years. These changes in the age structure of the population will directly affect the types of goods and services demanded. For example, as the number of young people declines, the need for some education services will fall. When greater numbers of people from the baby boom establish families, they will require more housing and goods such as appliances.

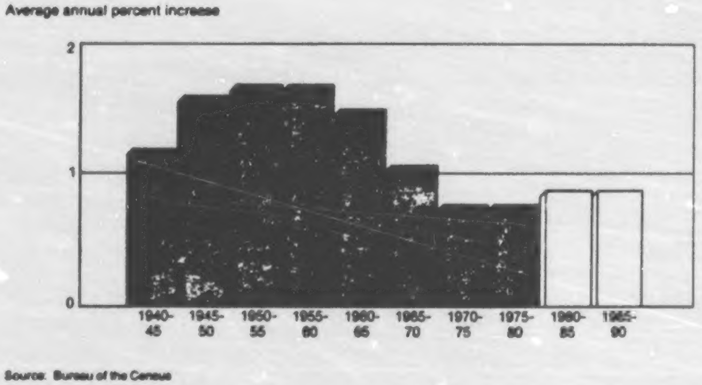
Shifts in the age structure of the population also will affect the composition of the labor force. These effects are discussed in a later section.

*Regional Differences*. National trends in population may not be the same as changes in a particular region or locality. A nation as large the United States is bound to vary from one place to another in rate of population growth. For example, between 1970 and 1980, the population of the Northeast and North Central regions increased by 0.2 percent and 4.0 percent, respectively, compared with 20.0 percent for the South and 23.9 percent in the West (chart 2). These differences in population growth reflect the movement of people to find new jobs, to retire, or for some other reason.

Geographic shifts in the population alter the demand for and supply of workers in local job markets. In areas with a growing population, for example, demand for services such as police and fire protection, water, and sanitation will increase. At the same time, in some occu-

Chart 1

**Since 1960, the population has grown more slowly**



Source: Bureau of the Census

pations more people looking for work in those areas could increase competition. Individuals investigating future employment opportunities in an occupation should remember that local conditions could differ greatly from national projections presented in the *Handbook*. Sources of information about local job market conditions can be found in the section, "Where to Go for More Information."

## Labor Force

The size and characteristics of the labor force determine the number and type of people competing for jobs. In addition, because workers are a vital part of the production process, the size of the labor force affects the amount of goods and services that can be produced. Growth, alterations in the age structure, and rising educational levels are among the labor force changes that will affect employment opportunities through the 1980's.

*Growth*. The civilian labor force consists of people with jobs and people looking for jobs. Through the late 1960's and the 1970's, the number of people in the labor force grew tremendously because many people born during the baby boom entered the job market, and women increasingly sought jobs. In 1980, the civilian labor force totaled about 105 million persons—63 percent of the noninstitutional population 16 years of age and over.

The labor force will continue to grow during the 1980's but at a slower rate than in recent years. By 1990, the size of the labor force is expected to range from 122 to 128 million persons—a projected increase of 17 to 22 percent over the 1980 level. Contributing to this anticipated growth will be the expansion of the working age population and the continued rise in the proportion of women who work. The labor force will grow more slowly between 1985 and 1990 than in the early 1980's. This slowdown will result from a drop in the number of young people of working age despite continued growth in the participation rate of women (charts 3 and 4). A larger labor force will mean more people looking for jobs. However, because of shifts in the age structure, the employment outlook for many individuals will improve.

*Age Structure*. As a result of the baby boom, a large number of young people entered the labor force during the 1970's, increasing competition for many entry level jobs. As the number of people between 16 and 24 drops, there will be fewer first-time entrants into the labor force, and competition for entry level jobs should ease. The proportion of 25- to 54-year-olds in the labor force will swell as people born during the baby boom get older. The whole economy should benefit from this change because workers in this age group generally have work experience and are, therefore, more productive and less likely to be unemployed (chart 5).

*Education*. Employers always wish to hire the best qualified persons available at the offered wage. This does not mean that they always choose those applicants who have the most education. However, individuals looking for a job should be aware that the higher educational attainment of the labor force as a whole could increase competition in many occupations.

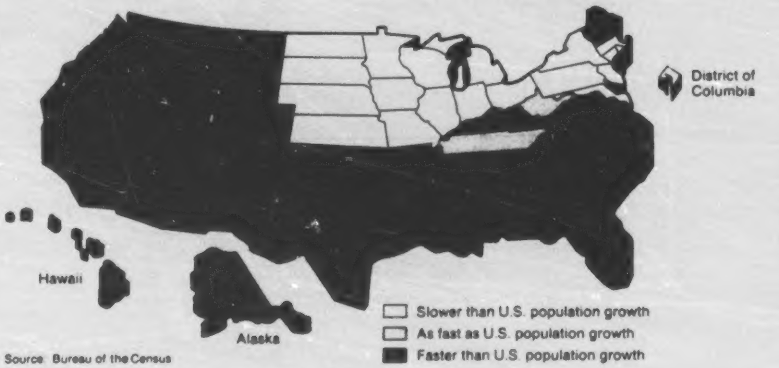
Persons contemplating dropping out of high school should recognize that a high school education has become standard. The educational attainment of the labor force has risen from 11.1 years of school in 1952 to 12.7 years in 1980. Many technical, craft, and office occupations now require postsecondary vocational education or apprenticeship, because employers prefer to hire trained applicants rather than provide training. Thus, high school dropouts are likely to be at a serious disadvantage when seeking jobs that offer better pay or advancement.

Traditionally, a college education has been viewed as a gateway to better pay, higher status, and more challenging work. As college education has become more widespread, the proportion of workers in the labor force who have completed at least 4 years of college has risen from 8 percent in 1952 to 19 percent in 1980. Recent experience has shown, however, that the traditional view of a college degree as a guarantee of success has not been matched by reality. Between 1970 and 1980, employment of college graduates grew 84 percent. The proportion employed in professional, technical, and managerial occupations, however, declined because these occupations did not expand rapidly enough to absorb the growing supply of graduates. As a result, 1 out of 4 college graduates who entered the labor market between 1969 and 1978 took jobs not usually considered by graduates to be appropriate to their education and abilities. The proportion of graduates in clerical, lower level sales, and

Chart 2

**Population growth varies among the States**

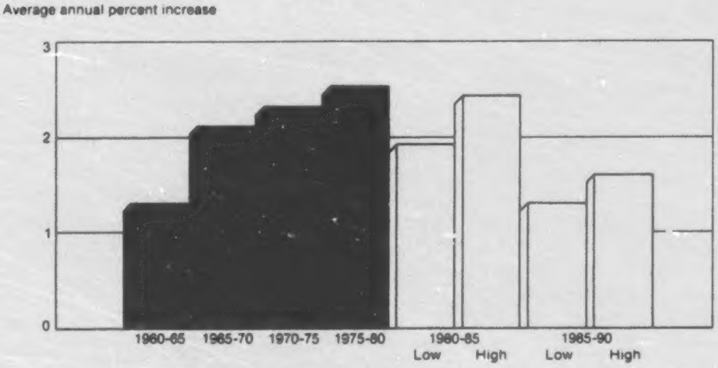
Percent change in State populations, 1970-80


District of Columbia
Hawaii
Alaska
Slower than U.S. population growth
As fast as U.S. population growth
Faster than U.S. population growth

Source: Bureau of the Census

Chart 3

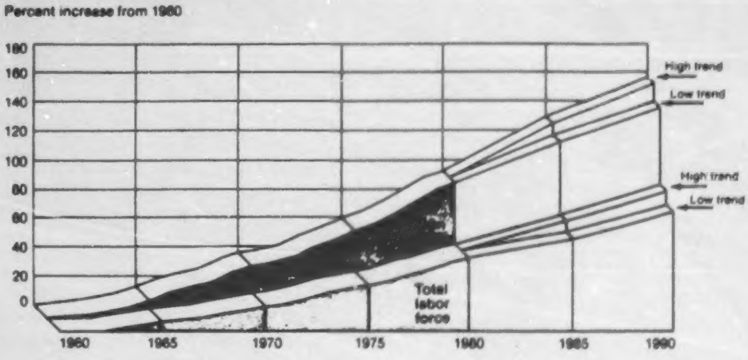
**Labor force growth will slow during the 1980's**



Source: Bureau of Labor Statistics

Chart 4

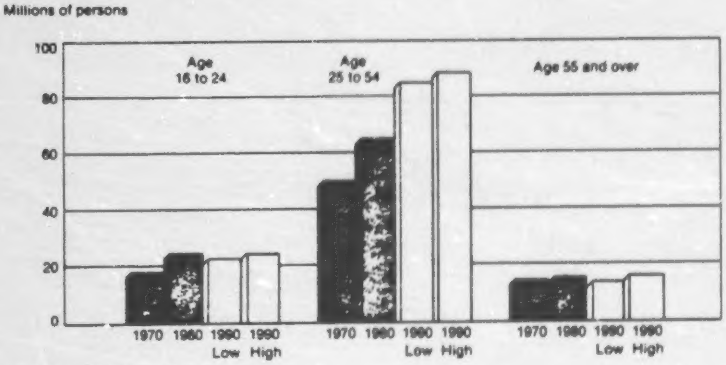
**The number of women workers will continue to grow faster than the total labor force**



Source: Bureau of Labor Statistics

Chart 5

**Through the 1980's, the number of workers in the prime working ages will grow dramatically**



Source: Bureau of Labor Statistics

blue-collar occupations grew.

Analysis of the future demand for college graduates, and of future supply, indicates that more college graduates will be available than will be needed to fill jobs that require a college degree. Not all occupations requiring a college degree will be overcrowded, however. Systems analysts, programmers, and engineers are examples of occupations where college graduates are expected to be in very strong demand.

But despite widespread publicity about the overall poor job market for college graduates, graduates still have an advantage over other workers. They are more likely to be employed and to hold the highest paying professional and managerial jobs. Persons interested in occupations that require a college degree should not be discouraged from pursuing a career that they believe matches their interests and abilities, but they should be aware of job market conditions.

## Employment

The previous sections discussed trends in the population and the labor force—two factors that affect employment opportunities. Others factors include the policies of the Federal Government, the rate of inflation, and the availability of energy. Changes in these and related factors affect the amount and type of goods and services that will be demanded in the future. If the demand for an industry's output increases in the future, more workers generally will be hired to increase production, and employment in the industry will grow. Growth in an occupation is closely related to the growth rates of industries in which the occupation is found. For example, growth in the construction industry would result in an increase in employment of blue-collar workers, as would growth in mining, manufacturing, or transportation—industries that also employ a high proportion of blue-collar workers. Likewise, growth in finance, insurance, and real estate would result in an increase in demand for white-collar workers (chart 6).

The Bureau of Labor Statistics has prepared three sets of projections of employment in industries and occupations. Referred to as the low-trend, high-trend I, and high-trend II alternatives or scenarios, the projections are based on different assumptions concerning growth of the labor force, unemployment, output, productivity, and other factors. The low-trend projection assumes a decline in the rate of labor force growth, moderately high employment levels throughout the decade, continued high inflation, and modest increases in production and productivity. The two high-trend scenarios are more optimistic, assuming a slowdown of inflation, and lower unemployment rates than the low-trend scenario. The high-trend I scenario assumes a faster growth of the labor force but slower growth of productivity than the high-trend II scenario. A more detailed discussion of the assumptions and methods used to develop the three sets of projections can be found in a separate chapter of the *Handbook*.

The following sections present employment estimates from the low-trend and the higher of the high-trend scenarios. Together these two estimates define the range of the projected industry and occupational employment growth.

## Industrial Profile

To discuss employment trends and projections in industries, it is useful to divide the economy into nine industrial sectors under two broad groups—service-producing industries and goods-producing industries. Over two-thirds of the Nation's workers currently are employed in industries that provide services such as health care, trade, education, repair and maintenance, government, transportation, banking, and insurance. Industries that produce goods through farming, construction, mining, and manufacturing employ less than one-third of the country's work force.

**Service-Producing-Industries.** Employment in service-producing industries has increased at a faster rate than employment in goods-producing industries (chart 7). Among the factors that have contributed to this rapid growth are rising incomes and living standards that result in greater demand for education, health care, entertainment, and business and financial services. In addition, the growth of cities and suburbs brought a need for more local government services. Further, because many services involve personal contact, fewer people have been replaced by machines in service-producing industries.

Employment in service-producing industries is expected to increase from 65.7 million workers in 1980 to between 78.7 and 83.5 million in 1990, or by 20 to 27 percent. Growth will vary among industries within the group (chart 8). The following paragraphs summarize recent trends and the projections of employment in the five industrial sectors that make up the service-producing industries.

*Transportation, communications, and public utilities.* This is the slowest growing sector of the service-producing industries. Between 1970 to 1980, employment in this sector increased only one-third as fast as in the service-producing industries as a whole, due largely to declining employment requirements in the railroad and water transportation industries. However, even in the communications industries where demand increased greatly, technological innovations limited employment growth.

Between 1980 and 1990, employment in the transportation, communication, and public utilities sector is expected to rise from 5.5 million to between 6.5 and 7.1 million workers, or by 12 to 22 percent. Communications industries will grow 14 to 27 percent, from 1.4 million to between 1.5 and 1.7 million workers. More efficient communications equipment is likely to keep employment from growing as rapidly as output.

Although employment in railroad and water transportation industries is expected to decline, other transportation industries such as air, local transit, and trucking will increase. Employment in transportation as a whole will rise by 12 to 18 percent, from 3.6 million to between 4.1 and 4.3 million workers.

Demand for electric power, gas utilities, and water and sanitary services will increase through the 1990's as population and industry grow. Employment in industries that deliver these services is expected to increase from 834,000 to between 910,000 and 1.1 million workers, or by 9 to 30 percent.

*Trade.* Both wholesale and retail trade employment have increased as the population has grown and as rising incomes have enabled people to buy a great number and variety of goods. Retail trade grew slightly faster than wholesale trade during the 1970's, 38 percent compared to 32 percent—reflecting the growth of shopping centers as the suburbs expanded. Between 1980 and 1990, wholesale and retail trade employment is expected to grow from 20.6 million to between 25.1 and 26.8 million workers, or by 22 to 31 percent. Employment will continue to increase faster in retail than in wholesale trade, 24 to 31 percent compared with 17 to 28 percent. Employment will rise despite the use of some laborsaving innovations such as self-service merchandising and computerized inventory systems.

*Finance, insurance, and real estate.* This sector grew 42 percent between 1970 and 1980 as these industries expanded to meet the financial and banking needs of a growing population.

Between 1980 and 1990, employment in this section is expected to rise from 5.2 million to between 6.5 and 6.9 million workers, or by 26 to 34 percent. A growing population will keep demand high for credit and other financial services. In addition, businesses will need assistance to finance the expansion of their plants and the purchase of new equipment.

*Services.* This sector includes a variety of industries, such as hotels, barber shops, automobile repair shops, business services, hospitals, and nonprofit organizations. Employment in this sector increased 37 percent between 1970 and 1980. High demand for health care, maintenance and repair, advertising, and commercial cleaning services has been among the forces behind this growth.

From 1980 to 1990, employment in service industries is expected to increase from 26.2 million to between 31.6 and 33.5 million workers or by 20 to 28 percent, and will provide more new jobs than any other industry sector. Employment requirements in health care are expected to grow rapidly due to population growth—particularly the elderly—rising incomes and increased health insurance coverage that increase people's ability to pay for medical care. Business services, including accounting, data processing, and maintenance, also are expected to grow rapidly.

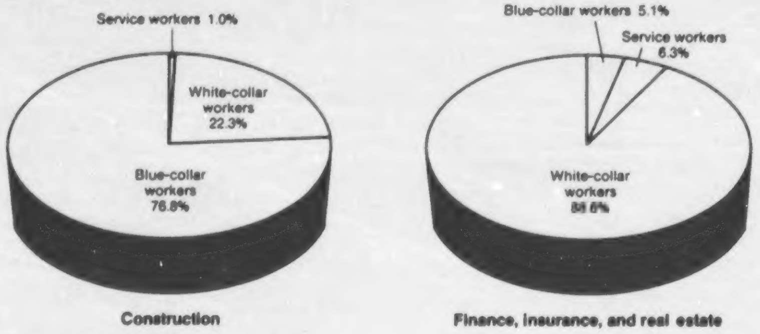
*Government.* Increase demand for services provided by government—administration, health and welfare and police and fire protection—caused employment in the government sector to rise about 36 percent between 1970 and 1980. Employment in State and local governments expanded 47 percent compared to 13 percent for the Federal Government.

As a result of public desire to limit government growth, employment is expected to rise only 14 to 16 percent, from 7.9 million to between 9 and 9.1 million workers. Most of this growth will be in State and local government.

**Goods-Producing Industries.** Employment in goods-producing industries rose only 10 per-

Chart 6

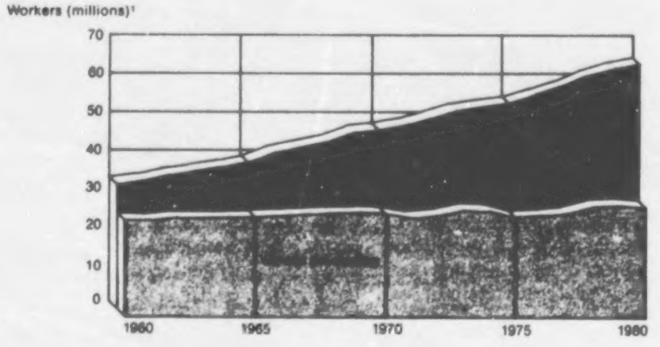
**Industries differ substantially in the kinds of workers they employ**



Source: Bureau of Labor Statistics

Chart 7

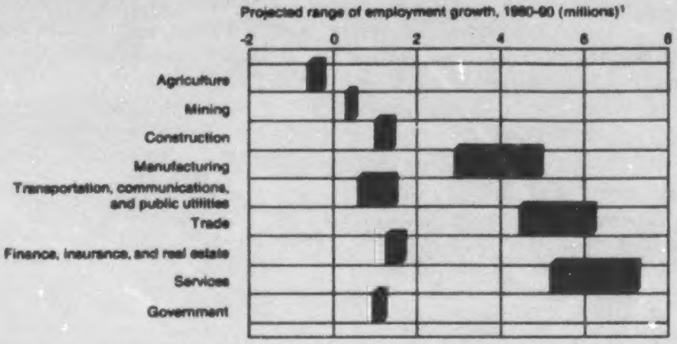
**Industries providing services employ more people than those providing goods**



¹Wage and salary workers, except for agriculture, which includes self-employed and unpaid family workers
Source: Bureau of Labor Statistics

Chart 8

**Through the 1980's, changes in employment will vary widely among industries**



[1] Wage and salary workers, except for agriculture, which includes self-employed and unpaid family workers

Source: Bureau of Labor Statistics

cent between 1970 and 1980. Growth varied greatly by industry, however. Between 1980 and 1990, employment in goods-producing industries is expected to increase from 29 million to between 32.5 and 35.5 million workers, or by 13 to 22 percent. Significant variation in growth rates is expected to continue among the four sectors that make up this group (chart 8).

*Agriculture*. Employment in agriculture declined 7 percent between 1970 and 1980, while farm output increased through the use of more and better machinery, fertilizers, feeds, pesticides, and hybrid plants.

Domestic demand for food will increase only slightly through the 1980's. The worldwide demand for food will rise because of population growth, and exports of food will increase through the next decade. Farm productivity, however, will continue to improve—although more slowly than in the past—and employment is expected to decline even as production rises. Between 1980 and 1990, employment is projected to drop from 3.1 million to between 2.6 and 2.9 million workers, or by 7 to 16 percent.

*Mining*. Having declined through most of the 1960's, employment in the mining sector increased substantially during the 1970's. Employment rose about 65 percent between 1970 and 1980, mostly because of the country's renewed emphasis on developing energy sources.

As the development of fuel resources, especially coal, continues through the next decade, employment in the mining sector is expected to grow from 1 million to between 1.2 and 1.3 million workers, or by 20 to 30 percent. In some nonenergy industries such as iron ore mining, employment will grow more slowly than in the sector as a whole. Improvements in mining techniques in these industries will permit increased output with only a slight increase in employment.

*Contract construction*. Despite several economic slumps, employment rose 25 percent between 1970 and 1980, because of strong demand for houses, apartments, office buildings, and highways.

During the 1980's, the demand for new housing is expected to remain high as the number of households continues to increase. Business expansion and maintenance of existing buildings also will require more construction. Between 1980 and 1990, employment in the construction sector is expected to increase from 4.5 million to between 5.6 and 6 million workers, or 24 to 34 percent.

*Manufacturing*. Although a growing population and rising incomes increased demand for almost all types of goods, improved production methods and stiff foreign competition limited employment growth in many manufacturing industries during the 1970's. In fact, the growth in employment over the decade, 5 percent, was less than in any other sector except agriculture.

Manufacturing employment is expected to rise to between 23.3 and 25.3 million workers by 1990, a 15- to 24-percent increase from the 1980 level of 20.4 million.

Manufacturing is divided into two broad categories, durable goods manufacturing and nondurable goods manufacturing. Employment in durable goods manufacturing is expected to increase 19 to 30 percent as rising population and incomes increase demand for consumer durables, such as automobiles and appliances, and rising business investment increases demand for capital goods, such as machinery. Employment in nondurable goods manufacturing will increase more slowly, by 8 to 15 percent, reflecting the tendency of consumers to spend less of their budget on staples such as food and clothing as their incomes rise.

Growth rates will vary among individual industries within each of these categories. In nondurable goods industries, for example, employment in bakeries is expected to decline, while a moderate rise in employment is projected for the paper industry. Among durable goods, computer equipment manufacturing is expected to undergo a rapid employment increase, while sawmills will employ about the same number of workers in 1990 as in 1980.

## Occupational Profile

Customarily, occupations are divided into white-collar occupations—professional and technical, managerial, clerical, and sales jobs; blue-collar occupations—craft, operative, and laborer jobs; service occupations; and farm occupations.

Growth rates among these groups have differed markedly since 1960. White-collar workers now represent about half of the total labor force up from 43 percent in 1960 (chart 9). The number of service workers also has risen rapidly, while the blue-collar work force has grown only slowly and farm workers have declined. The following section describes expected changes among the broad occupational groups between 1980 and 1990 (chart 10).

*Professional and technical workers*. This category includes many highly trained workers, such as scientists and engineers, medical practitioners, teachers, entertainers, pilots, and accountants. Between 1980 and 1990, employment is expected to grow from 16.4 million to between 19.7 and 20.7 million workers, or by 20 to 26 percent.

Greater efforts in energy development and industrial production will contribute to a growing demand for scientists, engineers, and technicians. The medical professions can be expected to grow as the health services industry expands. The demand for systems analysts and programmers to further develop and utilize computer resources is projected to grow rapidly.

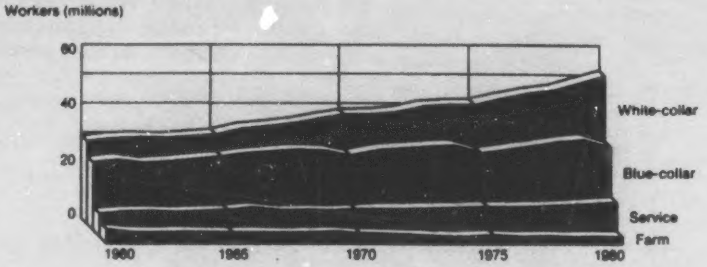
Some occupations in this group will offer less favorable job prospects. For example, employment of secondary and college and university faculty is expected to decrease somewhat as a result of declining school enrollments. Other jobs, such as lawyer or architect, are expected to grow substantially but will be very competitive because they attract many applicants.

*Managers and administrators*. This group includes workers such as bank officers and managers, buyers, credit managers, and self-employed business operators. between 1980 and 1990, this group is expected to grow from 9.4 million to between 10.6 and 11.3 million, or by 13 to 21 percent.

Changes in business size and organizational structure have resulted in differing trends for self-employed and salaried managers. The number of self-employed business managers will continue to decline as large corporations and chain operations increasingly dominate many areas of business. Some small businesses, such as quick-service groceries and fast-food restaurants, still will provide opportunities for self-employment, however. The demand for salaried managers will continue to

Chart 9

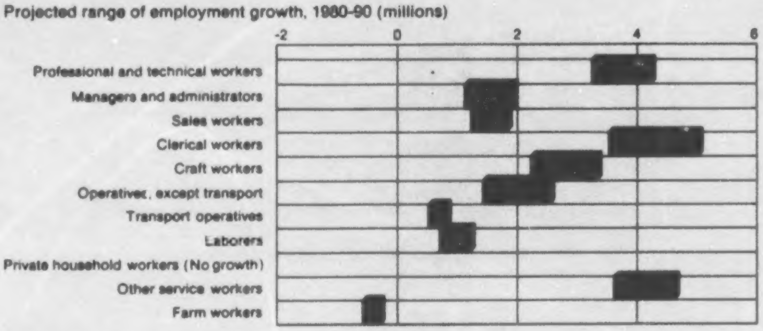
### White-collar workers have been the largest occupational group for more than two decades



Source: Bureau of Labor Statistics

Chart 10

### Through the 1980's, changes in employment will vary widely among occupational groups



Source: Bureau of Labor Statistics

grow as firms increasingly depend on trained management specialists, particularly in highly technical areas of operation.

*Clerical workers.* This group constitutes the largest occupational group and includes bank tellers, bookkeepers and accounting clerks, cashiers, secretaries, and typists. Between 1980 and 1990, employment in these occupations is expected to grow from 18.9 million to between 22.4 and 23.9 million workers, or by 19 to 27 percent.

Although new developments in computers, office machines, and dictating equipment will enable clerical workers to do more work in less time and will change the skills needed in some jobs, continued growth in employment is expected in most clerical occupations. Exceptions are keypunch operators, stenographers, and airline reservation and ticket agents—occupations that are expected to decline as improved technology reduces the need for workers. Conversely, the more extensive use of computers will greatly increase the employment of computer and peripheral equipment operators.

*Sales workers.* These workers are employed primarily by retail stores, manufacturing and wholesale firms, insurance companies, and real estate agencies. Employment in this group is expected to grow from 6.8 million to between 8.1 and 8.8 million workers, or by 19 to 28 percent.

Much of this growth will be due to expansion in the retail trade industry which employs nearly one-half of these workers. The demand for both full- and part-time sales workers in retail trade is expected to increase as the growing population along with its geographic movement requires more shopping centers and stores. Despite the use of laborsaving merchandising techniques such as computerized check-out counters, more stores and longer operating hours will cause employment to increase.

*Craft workers.* This group includes a wide variety of highly skilled workers, such as carpenters, tool-and-die makers, instrument makers, all-round machinists, electricians, and automobile mechanics. Between 1980 and 1990, employment in this group is expected to increase from 12.4 million to between 14.6 to 15.8 million, or by 18 to 27 percent.

Employment in many craft occupations is tied to trends in a particular industry. Employment in nearly all construction trades, for example, is expected to grow because of high demand for residential construction and business investment in new plants.

In contrast, the long-run employment decline in the railroad industry will lessen the demand for some craft occupations concentrated in that industry, such as railroad and car shop repairers. Because of advances in printing technology, very little growth is anticipated in the printing crafts.

*Operatives except transport.* This group includes production workers such as assemblers, production painters, and welders. Between 1980 and 1990, employment is expected to rise from 10.7 million to between 12.2 and 13.2 million workers, or by 14 to 23 percent.

Employment of operatives is tied closely to the production of goods, because the majority of these workers are employed in manufacturing industries. The projected slow growth of some manufacturing industries, along with improved production processes, will hold down the demand for many of these workers. Employment of textile operatives, for example, is expected to decline as more machinery is used in the textile industry.

*Transport operatives.* This group includes workers who drive buses, trucks, taxis, and forklifts, as well as parking attendants and sailors. Employment in most of these occupations will increase because of greater use of most types of transportation equipment. Some occupations, such as bus driver and sailor, will grow only slowly. Between 1980 and 1990, employment of transport operatives is expected to rise from 3.5 million to between 4.2 and 4.4 million workers, or by 18 to 26 percent.

*Laborers.* This group includes such workers as garbage collectors, construction laborers, and freight and stock handlers. Employment in this group is expected to grow slowly as machinery increasingly replaces manual labor. Power-driven equipment, such as forklift trucks, cranes, and hoists will handle more material in factories, loading docks, and warehouses. Other machines will do excavating, ditch digging, and similar work. Between 1980 and 1990, employment of laborers is expected to increase from 5.9 million to between 6.7 and 7.1 million workers or by 14 to 22 percent.

*Private household service workers.* These workers include housekeepers, child care workers, and maids and servants. In contrast to the rapid employment growth expected for other service occupations, the number of private household workers is projected to remain about the same as in 1980 when employment was 988,000. Although demand for maids and other private household workers should rise as more women work outside the home and personal incomes rise, fewer people are expected to seek these jobs because of the low wages, lack of advancement opportunities, and low social status associated with the work.

*Service workers.* This group includes a wide range of worker—firefighters, janitors, cosmetologists, and bartenders are a few examples. These workers, most of whom are employed in service-producing industries, make up the fastest growing occupational group. Factors expected to increase the need for these workers are the rising demand for health services as the population becomes older and—as incomes rise—more frequent use of restaurants, beauty salons, and leisure services. Between 1980 and 1990, employment of service workers is expected to increase by about 24 to 32 percent, from 14.6 million between 18.1 and 19.2 million workers.

*Farm workers.* This group includes farmers and farm managers as well as farm laborers. Employment of these workers has declined for decades as farm productivity has increased as a result of fewer but larger farms, the use of more efficient machinery, and the development of new feeds, fertilizers, and pesticides. Between 1980 and 1990 the number of farmworkers is expected to decline from 2.7 million to between 2.4 and 2.2 million workers, or by between 10 and 18 percent.

## Job Openings

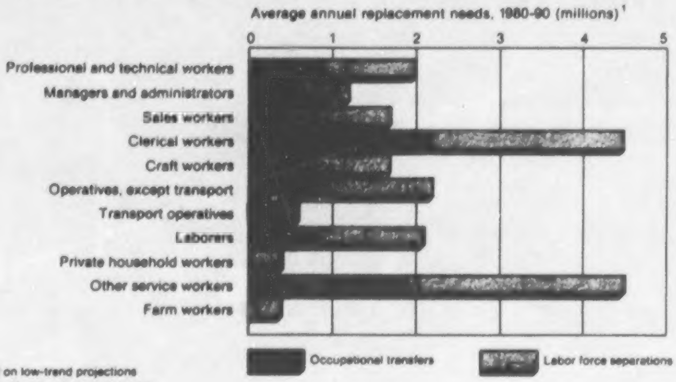
Projected employment growth is one indicator of future job prospects because it identifies the occupations in which demand for workers is increasing. Another is the total number of job openings that are expected to be generated from replacement needs as well as employment growth. Replacement needs result from the constant changes occurring in the work force as workers transfer to other jobs or stop working. Some workers transfer to other occupations either as a step up the career ladder or to change careers. Some workers temporarily stop working, perhaps to return to school or care for a family. And some workers leave the labor force permanently. These movements result in job openings for people outside the occupation. When these replacement needs are considered it becomes apparent that even occupations in which employment is expected to decline or to increase slowly can offer many job opportunities.

The number of replacement openings varies among occupations (chart 11). These variations reflect differences in the average age of workers in the occupation, the earnings and status associated with the job, and the level of required training. Construction laborers, for example, can quit and later easily find a similar or better job. On the other hand, physicians have few occupations of equal status and pay to which they could transfer. They also have invested a great deal of time and money in preparing for their careers. As a result the replacement rate is much higher for laborers than for physicians.

In the past, the Bureau's estimates of replacement needs included only job openings due to deaths and retirements. These estimates understated replacement needs because they excluded openings that are created as workers leave the labor force temporarily to return to school and for other personal reasons. They also excluded the number of openings that are generated as workers change occupations. After several years of research, the Bureau has developed openings estimates that take account of these factors. These new estimates should provide a more accurate picture of job opportunities resulting from replacement needs. Detailed information about the new estimates of replacement openings will be presented in the forthcoming bulletin, *Occupational Projections and Training Data, 1982 Edition.*

Chart 11

**Replacement needs result from occupational transfers and labor force separations**



[1] Based on low-trend projections

Source: Bureau of Labor Statistics

# Assumptions and Methods Used in Preparing Employment Projections

Although the discussions of future employment contained in the *Handbook* are written in qualitative terms, they are based on quantitative estimates developed using the most recent data available on population, industry and occupational employment, productivity, consumer expenditures, and other factors expected to affect employment. The Bureau's staff specializing in developing economic and employment projections provided much of these data, but many other agencies of the Federal Government were important contributors as well, including the Bureau of Apprenticeship and Training of the Department of Labor; the Bureau of the Census of the Department of Commerce; the National Center for Education Statistics and the Rehabilitation Services Administration of the Department of Education; the Office of Personnel Management; the Interstate Commerce Commission; the Civil Aeronautics Board; the Federal Communications Commission; the Department of Transportation; and the National Science Foundation.

In addition, experts in industry, unions, professional societies, and trade associations furnished data and supplied information through interviews. Many of these individuals also reviewed preliminary drafts of the statements. The information presented in each statement thus reflects the knowledge and judgment not only of the Bureau of Labor Statistics staff, but also of leaders in the field discussed. The Bureau, of course, takes full responsibility for the published material.

Information compiled from these sources was analyzed in conjunction with alternative projections of the economy to 1990 constructed as part of the Bureau's projections program. Like other models used in projecting economic and employment development, the Bureau's system encompasses the major facets of the economy and represents a comprehensive view of its projected structure. It is comprised of a series of closely related projections encompassing labor force; gross national product (GNP); industrial output and productivity; average weekly hours of work; and employment for detailed industry groups and occupations. A detailed description of the model system appears in *The BLS Economic Growth Model System Used for Projections to 1990,* Bulletin 2112. For more detail on the projections used in developing this report, see the August 1981 issue of the *Monthly Labor Review.*

**Assumptions.** The Bureau has prepared three different scenarios of economic growth through the 1980's. Each alternative is based on the following general assumptions.

—Energy prices will not rise dramatically and alter the growth of GNP.

—The institutional framework of the U.S. economy will not change radically.

—Current social, technological, and scientific trends will continue.

—No major event such as widespread or long-lasting energy shortages or war will significantly alter the industrial structure of the economy or alter the rate of economic growth.

—Federal grants-in-aid to State and local governments will decline.

—Federal expenditures will decline as a proportion of GNP.

The differences among the scenarios reflect different sets of specific assumptions about fiscal and demographic factors, as well as productivity, employment, and price levels through the decade. The low-trend projection is characterized by assumptions of continuing high inflation, low productivity growth, and moderate expansion in real production. The high-trend I version assumes marked improvement in both inflation and productivity, greater labor force growth, and higher real production. Finally, the high-trend II version alternative assumes labor force growth consistent with the low trend, but greater productivity gains and less inflation than in the high-trend I version. Detailed information about the assumptions used in these projections is presented in *BLS Projections to 1990,* Bulletin 2121.

**Methods.** Beginning with population projections by age and sex developed by the Bureau of the Census, a projection of the total labor force is derived using expected labor force participation rates for each population group. In developing participation rates, the Bureau takes into account a variety of factors that affect decisions to enter the labor force, such as school attendance, retirement practices, and family responsibilities.

The labor force projection is then translated into the level of GNP that would be produced by the labor force at the assumed employment and unemployment levels. Real GNP then is calculated by subtracting unemployment from the labor force and multiplying the result by a projection of output per worker. The estimates of future output per worker are based on an analysis of trends in productivity (output per workhour) among industries and changes in average weekly hours of work.

Next, the projection of GNP is divided among its major components: Consumer expenditures, investment, government expenditures—Federal, State, and local—and net exports. These estimates of GNP by major component are derived using an economic model and by making assumptions about fiscal policy, taxes, and other major economic variables. Each of these major GNP components is in turn broken down by producing industry. Consumer expenditures, for example, are divided among industries producing goods and services such as housing, food, automobiles, medical care and education.

Once estimates are developed for these products and services, they are translated into detailed projections of industry output, not only for the industries producing the final product—such as an automobile—but also for the industries that provide electric power, transportation, component parts, and other inputs required in the production process. Input-output tables developed by the Department of Commerce and modified by the BLS are used to estimate output.

By using estimates of future output per workhour based on studies of productivity and technological trends for each industry, industry employment projections are derived from the output estimates. In addition, many detailed industries are studied using regression analysis. In these studies, equations are developed that relate employment by industry to combinations of economic variables, such as population and income, that are considered determinants of long-run changes in employment. The industry employment projections developed through these studies are evaluated with data generated by the basic model to develop the final industry employment projections. They also are used to develop projections for industries that are not included in the basic model.

**Occupational employment projections.** Projections of industry employment are translated into occupational employment projections using an industry-occupation matrix. The Bureau converted the National Industry-Occupational Employment Matrix from a Census base to an Occupational Employment Statistics (OES) survey base in 1981; this edition of the *Handbook* is the first to incorporate the OES data. The new matrix is divided into 378 industries and about 1,600 occupations, offering far greater detail than has been available on the current and projected employment structure of the economy.

Staffing patterns that reflect data from the OES surveys are projected to the target year (currently 1990) and, when applied to projections of total employment by industry and summed across all industries, yield employment projections for all occupations in the matrix. Thus, the projected employment of an occupation is determined by changes in the proportion of workers in the occupation in each industry, and the growth rate of industries in which an occupation is concentrated. For example, employment in an occupation would be projected to grow: (1) if its proportion of the work force increases but industry employment remains constant, or (2) if its proportion of the work force remains constant but industry employment increases.

In some cases, employment is projected on the basis of its relationship to certain independent variables rather than on its representation in each industry. This approach is particularly useful when projecting employment for an occupation that is affected by its own complex set of factors. For example, employment of elementary school teachers is projected based on trends in pupil-teacher ratios applied to projected school attendance, and the projection of automobile mechanics is based on the expected stock of motor vehicles. Projections that are developed independently are compared with those in the matrix and revised, if necessary, to assure consistency.

**Replacement needs.** In addition to a projection of employment, an estimate is made of the total number of job openings expected to occur in each occupation. Growth in the size of an occupation is only one source of job openings. Employment opportunities also occur when workers transfer to another occupation, leave the labor force temporarily, retire, or die.

In previous editions of the *Handbook*, estimates of replacement needs reflected only openings due to permanent labor force separations. They did not take into account job openings created by the movement of workers between occupations or by workers who temporarily stop working for school, family, or other reasons. These estimates seriously understated replacement needs for many occupations, thereby hindering an accurate assessment of job market conditions in specific occupations.

Using longitudinal data from the Current Population Survey (CPS), estimates of job openings from all sources have been derived that should provide a more comprehensive view of the demand for workers through the 1980's.

The development of job openings information based on CPS data is described in *Measuring Labor Force Movements: A New Approach*, BLS Report 581. Detailed job openings information for some of the occupations covered in the *Handbook* will be presented in the forthcoming BLS bulletin, *Occupational Projections and Training Data, 1982 Edition*.

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# Administrative and Managerial Occupations

Managers and administrators achieve organizational objectives by planning and directing the activities of others. In a very small enterprise, the owner may also be the manager. However, as a business or other organization grows and becomes more complex, more people are needed to oversee the operations of the work force. Large corporations or government agencies may employ hundreds of managers, organized into a hierarchy of administrative positions.

Top level managers—executives—are primarily concerned with policymaking, planning, and overall coordination. They direct the activities of the organization through departmental or mid-level managers. Top level managers include school superintendents, police and fire chiefs, bank presidents, governors, mayors, hospital administrators, chief executive officers of corporations, department store managers, and government agency directors.

Below the top management in a large organization are the middle managers, who direct various departments. Middle managers may handle a particular area, such as personnel, accounting, sales, finance, or marketing. Or they may supervise the production process at a factory or industrial plant. Middle managers are the people who keep things running smoothly. They organize activities at the operating level and provide direct supervision.

Middle managers work with the assistance of support personnel who plan, organize, analyze, and monitor activities. Support personnel include accountants, loan officers, employment interviewers, purchasing agents and buyers, credit managers, membership directors, promotion agents, and inspectors of all kinds. Jobs such as these require technical expertise or a thorough understanding of a particular procedure or operation.

Managers and administrators are employed in virtually every type of industrial plant, commercial enterprise, and government agency. Large numbers are employed in finance, insurance, real estate, construction, public administration, health, education, transportation, and public utilities.

The accompanying table presents 1980 employment estimates for selected administrative and managerial occupations.

Because of the wide range of establishments employing managers, job duties vary greatly. For example, the manager of a fast food restaurant performs tasks that differ substantially from those of a school administrator, community organization director, or construction manager.

As the nature of the work varies, so does the level of education required. Some managers and administrators, including school principals and hospital administrators, need at least a master's degree. Positions such as these require the specialized knowledge and skills obtained through years of formal education. Other positions, including production supervisor, retail buyer, construction manager, and maintenance superintendent, may not require a college degree. People in these jobs often have worked their way up in the organization. Their main qualification is a thorough knowledge of the operating procedures of the workplace. Most managerial and administrative positions require a college education, however. In some occupations—such as accounting—continuing education is important for career advancement.

On-the-job training enables workers with management potential to "learn the ropes." Particularly in wholesale and retail trade, many managers begin as management trainees, working under the direction of more experienced managers. Management trainees may be hired from outside the organization or promoted from other positions within it. On-the-job training programs provide trainees with the specific knowledge and experience they need to perform successfully.

Despite the differences in formal education and training, successful managers are likely to have certain characteristics in common. Because they work with people, managers need to be able to get along with and motivate and influence others. They should be able to inspire confidence and respect in those who work for them.

When they make plans and set goals for their enterprise, managers work with ideas. They need organzational skills, good judgment, and decisionmaking ability. Successful managers have mastered the art of getting all the facts, coming to a decision, and communicating it effectively. They need a strong sense of initiative to be able to work without close supervision.

For some administrative positions analytical, evaluative, and promotional skills are essential. Accountants, financial analysts, and others provide the technical expertise upon which management decisions are based. Good judgment and the ability to relate to others are important for people in these occupations.

Earnings for managers and administrators vary widely. They depend on the industry and on the size and nature of the particular establishment in which the manager is employed. Earnings also vary with the level of managerial or administrative responsibility. For example, management trainees may start working at salaries that are not much higher than those of the people they supervise. Earnings increase as managers gain experience, prove their ability to handle the job, and take on additional responsibility.

On the whole, employment of managers and administrators is projected to grow about as fast as the average for all occupations through the 1980's. The growing size and complexity of both private and government enterprise is expected to require increasingly sophisticated management techniques. Therefore, the demand for trained management specialists will increase.

Employment opportunities will be better in some industries than in others, however. Little employment growth is foreseen in educational institutions during the 1980's, and therefore most job openings for school ad-

**Table 1. Employment in selected administrative and managerial occupations, 1980**

| Occupation | Employment |
|---|---|
| Accountants, auditors, and related occupations | 887,000 |
| Accountant and auditor | 833,000 |
| Tax examiner, collector, and revenue agent | 54,000 |
| Restaurant, cafe and bar manager | 557,000 |
| Sales manager, retail trade | 273,000 |
| Personnel and labor relations specialist | 178,000 |
| Purchasing agent and buyer | 172,000 |
| Inspector (except construction), public administration | 112,000 |
| Cost estimator | 86,000 |
| Underwriter | 76,000 |
| Employment interviewer | 58,000 |
| Construction inspector, public administration | 48,000 |
| Assessor | 32,000 |
| Tax preparer | 31,000 |
| Postmaster and mail superintendent | 28,000 |
| Credit analyst | 24,000 |
| Special agent, insurance | 24,000 |
| Claim examiner, property/casualty insurance | 22,000 |
| Claim taker, unemployment | 15,000 |
| Media buyer | 15,000 |
| Welfare investigator | 12,000 |
| Chief credit analyst | 8,000 |
| Safety inspector | 6,000 |

SOURCE: Bureau of Labor Statistics.

ministrators will result from replacement needs. By contrast, projected expansion in the health industry will generate many new managerial and administrative support positions in hospitals, clinics, nursing homes, insurance companies, pharmaceutical and medical supply firms, and other health-related organizations. Employment growth should also be strong in wholesale and retail trade and in manufacturing.

Both the number and proportion of self-employed managers and administrators are expected to decline during the 1980's, as large enterprises and chain operations increasingly dominate business activity.

# Accountants and Auditors

(D.O.T. 160 and 090.227-010)

## Nature of the Work

Managers must have up-to-date financial information to make important decisions. Accountants and auditors prepare and analyze financial reports that furnish this kind of information.

Three major fields are public, management, and government accounting. Public accountants have their own businesses or work for accounting firms. Management accountants, also called industrial or private accountants, handle the financial records of their company. Government accountants and auditors examine the records of government agencies and audit private businesses and individuals whose dealings are subject to government regulations.

Accountants often concentrate on one phase of accounting. For example, many public accountants specialize in auditing (examining a client's financial records and reports and attesting that they are in comformity with standards of preparation and reporting). Others specialize in tax matters, such as preparing income tax forms and advising clients of the tax advantages and disadvantages of certain business decisions. Still others specialize in management consulting and offer advice on a variety of matters. They might develop or revise an accounting system to serve the needs of clients more effectively or give advice about various types of computers or electronic data processing systems.

Management accountants provide the financial information executives need to make sound business decisions. They may work in areas such as taxation, budgeting, costs, or investments. Internal auditing, a specialization within management accounting, is rapidly growing in importance. Internal auditors examine and evaluate their firm's financial systems and management control procedures to ensure efficient operation.

Many persons with accounting backgrounds work for the Federal Government as Internal Revenue Service agents or are involved in financial management, financial institution examining, and budget administration.

Accountants staff the faculties of business and professional schools as accounting teachers, researchers, or administrators. Some accountants teach part time, work as consultants, or serve on committees of professional organizations. For additional information, see the *Handbook* statement on college and university faculty.

## Working Conditions

Most accountants and auditors work in offices and have structured work schedules. Accounting teachers, on the other hand, with more flexible schedules, divide their time among teaching, research, and administrative responsibilities. Self-employed accountants, who may set up offices at home, work as many hours as the business requires.

Tax accountants work long hours under heavy pressure during the tax season. Accountants employed by large firms may travel extensively to audit or work for clients or branches of the firm.

## Employment

About 900,000 people worked as accountants and auditors in 1980, including more than 200,000 Certified Public Accountants (CPA), 20,000 licensed public accountants, and about 10,000 Certified Internal Auditors (CIA).

Most accountants do management accounting. Many others are engaged in public accounting as proprietors, partners, or employees of independent accounting firms. Other accountants work for Federal, State, and local government agencies, and some teach in colleges and universities. Opportunities are plentiful for part-time work, particularly in smaller firms.

Accountants and auditors are found in all business, industrial, and government organizations. Most, however, work in large urban areas where many public accounting firms and central offices of large businesses are concentrated.

## Training, Other Qualifications, and Advancement

Training is available at colleges and universities, accounting and business schools, and correspondence schools. Although many graduates of business and correspondence schools are successful in landing junior accounting positions, most public accounting and business firms require applicants for accountant and internal auditor positions to have at least a bachelor's degree in accounting or a closely related field. Many employ-

Accountants need mathematical and analytical skills.

ers prefer those with the master's degree in accounting. A growing number of large employers prefer applicants who are familiar with computers and their applications in accounting and internal auditing. For beginning accounting and auditing positions, the Federal Government requires 4 years of college (including 24 semester hours in accounting or auditing) or an equivalent combination of education and experience. However, applicants face competition for the limited number of openings in the Federal Government. For teaching positions, most colleges and universities generally require a doctoral degree or the Certified Public Accountant Certificate.

Previous experience in accounting or auditing can help an applicant get a job. Many colleges offer students an opportunity to gain experience through summer or part-time internship programs conducted by public accounting or business firms. Such training is invaluable in gaining permanent employment in the field.

Professional recognition through certification or licensure also is extremely valuable. Anyone working as a "certified public accountant" must hold a certificate and a license issued by a State board of accountancy. All States use the four-part Uniform CPA Examination, prepared by the American Institute of Certified Public Accountants, to establish certification. The CPA examination is rigorous and candidates are not required to pass all four parts at once. However, most States require candidates to pass at least two parts for partial credit. Many States require all sections of the test to be passed within a certain period of time. Although the vast majority of States require CPA candidates to be college graduates, some States substitute a certain number of years of public accounting experience for the educational requirement. Most States require applicants to have some public accounting experience for a CPA certificate. For example, bachelor's degree holders most often need 2 years of experience while master's degree holders often need no more than 1 year. Based on recommendations made by the American Institute of Certified Public Accountants, a few States now require or are considering requiring CPA candidates to have training beyond a bachelor's degree and, in some cases, a master's degree. This trend is expected to continue in the coming years.

For a "public accountant" or "accounting practitioner" license or registration, some States require only a high school diploma while others require college training. Information on requirements may be obtained directly from individual State boards of accountancy or from the National Society of Public Accountants (NSPA).

The Accreditation Council for Accountancy awards accreditation in accountancy to persons who have passed a comprehensive examination. Accreditation is maintained by completing mandatory continuing education. The Institute of Internal Auditors, Inc., confers the Certified Internal Auditor (CIA) upon graduates from accredited colleges and universities who have completed 3 years' experience in internal auditing and who have passed a four-part examination. The National Association of Accountants (NAA) confers the Certificate in Management Accounting (CMA) upon candidates who pass a series of uniform examinations and meet specific educational and professional standards.

Persons planning a career in accounting should have an aptitude for mathematics, be able quickly to analyze, compare, and interpret facts and figures, and to make sound judgments based on this knowledge. They must question how and why things are done and be able to clearly communicate the results of their work, orally and in writing, to clients and management.

Accountants and auditors must be patient and able to concentrate for long periods of time. They must be good at working with systems and computers as well as with people. Accuracy and the ability to handle responsibility with limited supervision are important.

Perhaps most important, because millions of financial statement users rely on the services of accountants and auditors, the public expects accountants and auditors to have high standards of integrity.

A growing number of States require both CPA's and licensed public accountants to complete a certain number of hours of continuing education before licenses can be renewed. The professional associations representing accountants sponsor numerous courses, seminars, group study programs, and other forms of continuing education. Increasingly, accountants and auditors are studying computer programming so they can adapt accounting procedures to data processing. Although capable accountants and auditors should advance rapidly, those having inadequate academic preparation may be assigned routine jobs and find promotion difficult.

Junior public accountants usually start by assisting with auditing work for several clients. They may advance to intermediate positions with more responsibility in 1 or 2 years and to senior positions within another few years. Those who deal successfully with top industry executives often become supervisors, managers, or partners, or transfer to executive positions in private firms. Some open their own public accounting offices.

Beginning management accountants often start as ledger accountants, junior internal auditors, or as trainees for technical accounting positions. They may advance to chief plant accountant, chief cost accountant, budget director, or manager of internal auditing. Some become controllers, treasurers, financial vice-presidents, or corporation presidents. Many corporation executives have backgrounds in accounting and finance.

In the Federal Government, beginners are hired as trainees and usually are promoted in a year or so. In college and university teaching, those having minimum training and experience may receive the rank of instructor without tenure; advancement and permanent faculty status depend upon further education and teaching experience and are increasingly difficult to attain.

## Job Outlook

Employment is expected to grow faster than the average for all occupations through the 1980's due to increasing pressure on businesses and government agencies to improve budgeting and accounting procedures. Because the occupation is large, many job openings should result from the need to replace workers who leave the occupation, retire, or die.

Demand for skilled accountants and auditors will rise as managers rely increasingly on accounting information to make business decisions. For example, plant expansion, mergers, or foreign investments may depend upon the financial condition of the firm, tax implications of the proposed action, and other considerations. On a smaller scale, small businesses are expected to rely more and more on the expertise of public accountants in planning their operations. Legislation regarding pension reform, tax reform, financial disclosure, and other matters should create many jobs for accountants and auditors. In addition, increases in investment and lending also should spur demand for accountants and auditors.

College graduates will be in greater demand for accounting and auditing jobs than applicants who lack this training. CPA's should have a wider range of job opportunities than other accountants. Opportunities for accountants without a college degree will occur mainly in small businesses and accounting firms.

Many employers prefer graduates who have worked part time in a business or accounting firm while in school. In fact, experience has become so important that some employers in business and industry seek persons with 1 or 2 years' experience for beginning positions.

The increasing use of computers and electronic data processing systems in accounting and auditing should stimulate the demand for those trained in such procedures. Opportunities should be particularly good for internal auditors and tax accountants.

## Earnings

According to a 1980 College Placement Council Salary Survey, bachelor's degree candidates in accounting received offers averaging around $16,800 a year; master's degree candidates, $19,200.

The starting salary of beginning accountants in private industry was about $15,100 a year in 1980, according to a national survey. Earnings of experienced accountants ranged between $18,400 and $31,900, depending on their level of responsibility and the complexity of the accounting system. Chief accountants who direct the accounting program of a company or one of its establishments earned between $28,300 and $50,100, depending upon the scope of their authority and size of professional staff.

According to the same survey, beginning auditors averaged $14,900 a year in 1980, while experienced auditors' earnings ranged between $18,000 and $26,800.

In the Federal Government, the starting annual salary for junior accountants and auditors was about $12,300 in early 1981. Candidates who had a superior academic record could begin at $15,200. Applicants with a master's degree or 2 years' professional experience began at $18,600. Accountants and auditors in the Federal Government averaged about $27,700 a year in 1980.

According to a 1980 survey of State governments, average annual salaries of beginning accountants or auditors ranged from about $12,800 to $17,400; principal auditors (work at first level of full supervision), $18,800 to $25,600; accounting supervisors (work at first level of full supervision), $17,300 to $23,700; and chief fiscal officers (those who administer accounting and fiscal management programs of large State agencies), $24,000 to $32,400.

## Related Occupations

Accountants and auditors design and control financial records and analyze financial data. Others for whom training in accounting is invaluable include appraisers, budget officers, loan officers, financial analysts, bank officers, actuaries, underwriters, FBI special agents, securities sales workers, and purchasing agents.

## Sources of Additional Information

Information about careers in accounting and about aptitude tests administered in high schools, colleges, and public accounting firms may be obtained from:

American Institute of Certified Public Accountants, 1211 Avenue of the Americas, New York, N.Y. 10036.

Information on specialized fields of accounting and auditing is available from:

National Association of Accountants, 919 Third Ave., New York, N.Y. 10022.

National Society of Public Accountants and Accreditation Council for Accountancy, 1010 North Fairfax St., Alexandria, Va. 22314.

Institute of Internal Auditors, 249 Maitland Ave., Altamonte Springs, Fla. 32701.

For information on educational institutions offering a specialization in accounting, contact:

American Assembly of Collegiate Schools of Business, 11500 Olive Blvd., Suite 142, St. Louis, Mo. 63141.

# Bank Officers and Managers

(D.O.T. 186.117-026, -038, -050, -054, -070,-074, -078, .137-010, .167-014, -050, -054, -058, and .267-018)

## Nature of the Work

Practically every bank has a president who directs operations; one or more vice presidents who act as general managers or who are in charge of bank departments such as trust or credit; and a comptroller or cashier who, unlike cashiers in stores and other businesses, is an executive officer generally responsible for all bank property. Large banks also may have treasurers and other senior officers, as well as junior officers, to supervise the various sections within different departments. Banks employed over 400,000 officers and managers in 1980.

Bank officers make decisions within a framework of policy set by the board of directors and existing laws and regulations. They must have a broad knowledge of business activities to relate to the operations of their department. For example, loan officers evaluate the credit and collateral of individuals and businesses applying for a loan. Similarly, trust officers must understand each account before they invest funds to support families, send young people to college, or pay retirement pensions. Besides supervising financial services, officers advise individuals and businesses and participate in community projects.

Because banks offer many services, a wide choice of careers is available to workers who specialize.

Loan officers may handle installment, commercial, real estate, or agricultural loans. To evaluate loan applications properly, officers need to be familiar with economics, production, distribution, merchandising, and commercial law. Also, they need to know business operations and should be able to analyze an industry's financial statements.

Bank officers in trust management require knowledge of financial planning and investment for investment research and for estate and trust administration.

Operations officers plan, coordinate, and control the workflow, update systems, and strive for administrative efficiency. Careers in bank operations include electronic data processing manager and other positions involving internal and customer services.

A correspondent bank officer is responsible for relations with other banks; a branch manager, for all functions of a branch office; and an international officer, for advising customers with financial dealings abroad. A working knowledge of a foreign country's financial system, trade relations, and economic conditions is beneficial to those interested in international banking.

Other career fields for bank officers are auditing, economics, personnel administration, public relations, and operations research.

## Working Conditions

Since a great deal of bank business depends on customers' impressions, officers and managers are provided attractive, comfortable offices and are encouraged to wear conservative, somewhat formal, business clothes. Bank officers and managers typically work 40 hours a week; however, attending civic functions, keeping abreast of community developments, establishing and maintaining business contacts, and similar activities are aspects of their jobs that occasionally require overtime work.

MRS LISKA
ASSISTANT CASHIER
AND ASSISTANT MANAGER

Bank officers often specialize in one area of bank operations.

# Dictionary of Occupational Titles (D.O.T.) Index

*Dictionary of Occupational Titles (D.O.T.)* Fourth Edition numbers referenced in the occupational statements are listed in column 1. Numbers representing the classification structure of the 1980 *Standard Occupational Classification Manual (S.O.C.)*—upon which the *Handbook's* clustering arrangement is based—are listed along side the *D.O.T.* number(s) to which they correspond.

| *D.O.T. Number* | *SOC Code* | *D.O.T. Title* | *Page* |
|---|---|---|---|
| 001.061-010 | 161 | Architect | 51 |
| -018 | 161 | Landscape architect | 53 |
| 001.261 | 372 | Drafters | 222 |
| 002.061 | 1622 | Aerospace engineers | 58 |
| 002.151 | 421 | Sales engineer, aeronautical products | 58 |
| 002.167 | 1622 | Aerospace engineers | 58 |
| 002.261-010 |  | Drafter, aeronautical | 222 |
| 003.061 | 1633 | Electrical engineers | 62 |
| 003.151 | 421 | Sales engineer, electrical products | 62 |
| 003.161 | 3711 | Engineering and science technicians | 223 |
| 003.167 through .187 | 1633 | Electrical engineers | 62 |
| 003.167-030 | 1633 | Engineer-in-charge, studio operations | 221 |
| -034 | 1633 | Engineer-in-charge, studio transmitter | 221 |
| -062 | 1636 | Systems engineer, electronic data processing | 72 |
| 003.261-010 | 3711 | Instrumentation technician | 223 |
| 003.281 | 372 | Drafters | 222 |
| 005.061 through .167 | 1628 | Civil engineers | 62 |
| 005.281 | 372 | Drafters | 222 |
| 006.061 | 1623 | Ceramic engineers | 60 |
| 006.151 |  | Sales engineer, ceramic products | 60 |
| 006.261 | 3719 | Engineering and science technicians | 223 |
| 007.061-010 through -022 | 1635 | Mechanical engineers | 63 |
| -026 |  | Tool designer | 223 |
| -034 | 1635 | Utilization engineer | 63 |
| 007.151 | 421 | Sales engineer, mechanical equipment | 63 |
| 007.161-018 | 372 | Engineering assistant, mechanical equipment | 222 |
| -022 | 1635 | Mechanical research engineer | 63 |
| -026 | 3713 | Mechanical-engineering technician | 223 |
| -030 | 3713 | Optomechanical technician | 223 |
| -034 | 1635 | Test engineer, mechanical equipment | 63 |
| 007.167-014 | 1635 | Plant engineer | 63 |
| -022 | 1635 | Tool-drawing checker | 222 |
| 007.181-010 | 3713 | Heat-transfer technician | 223 |
| 007.261 through .281 | 372 | Drafters | 222 |
| 008.061 | 1626 | Chemical engineer | 61 |
| 008.151 | 421 | Chemical equipment sales engineer | 61 |
| 008.167 | 1626 | Technical director, chemical plant | 61 |
| 008.261-010 | 3719 | Chemical-engineering technician | 223 |
| 010.061-014 | 1624 | Mining engineer | 64 |
| -018 | 1625 | Petroleum engineer | 65 |
| -022 | 1624 | Research engineer, mining-and-oil-well equipment and services | 64 |
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| 010.151.010 | 421 | Sales engineer, mining-and-oil-well equipment and services | 64 |
| 010.161.010 | 1625 | Chief engineer, research | 65 |
| -014 | 1625 | Chief petroleum engineer | 65 |
| 010.167-010 | 1625 | Chief engineer | 65 |
| -014 | 1625 | District supervisor, mud analysis well logging | 65 |
| -014 | 3833 | Observer, electrical prospecting | 223 |
| -018 | 3833 | Observer, gravity prospecting | 223 |
| -022 | 3833 | Surveyor, oil-well directional | 223 |
| 010.281-010 | 372 | Drafter, directional survey | 222 |
| -014 | 372 | Drafter, geological | 222 |
| -018 | 372 | Drafter, geophysical | 222 |
| 011.061-010 | 1623 | Foundry metallurgist | 64 |
| -014 | 1623 | Metallographer | 64 |
| -018 | 1623 | Metallurgist, extractive | 64 |
| -022 | 1623 | Metallurgist, physical | 64 |
| -026 | 1623 | Welding engineer | 64 |
| 011.161-010 | 1623 | Supervisor, metallurgical-and-quality-control-testing | 64 |
| 011.261 through .361 | 3719 | Engineering and science technicians | 223 |
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| -014 | 1634 | Safety engineer | 223 |
| -018 | 1634 | Standards engineer | 63 |
| 012.067-010 | 1634 | Metrologist | 63 |
| 012.167-010 | 1634 | Configuration management analyst | 63 |
| -014 | 1634 | Director, quality control | 63 |
| -018 | 1634 | Factory lay-out engineer | 63 |
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| -030 | 1634 | Industrial engineer | 63 |
| -034 | 1634 | Industrial-health engineer | 41, 63 |
| -038 | 1634 | Liaison worker, tool fabrication | 63 |
| -042 | 1634 | Manufacturing engineer | 63 |
| -046 | 1634 | Production engineer | 63 |
| -050 | 1634 | Production planner | 63 |
| -054 | 1634 | Quality-control engineer | 63 |
| -058 | 1634 | Safety manager | 41, 63 |
| -062 | 1634 | Supervisor, vendor quality | 63 |
| 012.167-066 | 1712 | Systems analyst, electronic data processing | 72 |
| -070 | 1634 | Time-study engineer | 63 |
| 012.187 | 1634 | Industrial engineers | 63 |
| 012.261-010 | 389 | Air analyst | 41 |
| 012.267-010 | 3712 | Industrial engineering technician | 223 |
| 012.281-010 | 389 | Smoke tester | 223 |
| 013.061 | 1632 | Agricultural engineer | 59 |
| 013.151-010 | 421 | Sales engineer, agricultural equipment | 59 |
| 013.161-010 | 3719 | Agricultural-engineering technician | 223 |
| 014.061 | 1637 | Mechanical engineers | 63 |
| 014.151-010 | 421 | Sales engineer, marine equipment | 63 |
| 014.167-010 | 1637 | Marine surveyor | 63 |
| -014 | 1637 | Port engineer | 63 |
| 014.281-010 | 372 | Drafter, marine | 222 |
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| 017 | 372 | Drafters | 222 |

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HANDOUT

## QUESTIONS FROM THE OOH

1. What is the address for the State Occupational Information Coordinating Committee in New York?
   ____________________
   ____________________
   ____________________
   ____________________

2. From 1970 to 1980, what were the two fastest growing sections of the United States?
   __________, __________
   What was the percentage of growth for each? __________, __________

3. To which occupational cluster do kindergarten and elementary school teachers belong?
   ____________________

4. On what page of the *Occupational Outlook Handbook* is there a description of agricultural pilots? __________

5. What are the related occupations for urban and regional planners?
   ____________________
   ____________________
   ____________________
   ____________________

6. Which occupation has the D.O.T. number 008.061 and the S.O.C. code 1626? __________

7. How many people were employed as kindergarten and elementary school teachers in 1980?
   __________

8. What amount of compensation do military personnel at the E-4 pay grade receive? __________

9. What is the D.O.T. number for automobile sales workers? __________

10. What address would you write to if you want more information about Medical Record Technicians and Clerks?
    ____________________
    ____________________
    ____________________
    ____________________

# How to Get the Most from the Handbook

What do people do in their jobs? How much education and training will I need to enter a certain occupation? Will it be difficult to find a job? How much can I expect to earn? Whether you are preparing to enter the world of work for the first time, reentering the labor force after an absence, or planning to change your occupation, these and other questions may arise as you try to select a career that is right for you. With thousands of jobs to choose from, finding answers to these kinds of questions can be difficult. However, with sufficient research, you can make an informed and confident career choice.

**Where do I start?**

A good place to start your study of careers is the *Occupational Outlook Handbook*. The *Handbook* provides information on what jobs are like; education and training requirements; and advancement possibilities, earnings, and job outlook. While every possible job is not discussed, the *Handbook* provides detailed information on about 250 occupations.

Like a dictionary, encyclopedia, or other reference book, the *Handbook* is not meant to be read from beginning to end. You can simply look through the table of contents or alphabetical index, find an occupation or area of work that you are interested in, and read that section. If you want to get a general view of the economy and the world of work, read the chapter on Tomorrow's Jobs. It explains some of the changes taking place in the job market today and what is expected to happen through the 1980's.

If you are just beginning to plan for a career, you may wonder what things you should consider. Start by listing your interests, abilities, and goals. Does science or art interest you? Do you enjoy working with your hands and building things, or do you really prefer working with people? Is money, recognition, or being a leader important to you? Once you have answered these and similar questions, you will be better able to choose an occupation or area of work that most closely matches your personal characteristics. Of course, assessing your traits and aptitudes is very difficult. Ask others to help you. Your school counselor has special tests that can help you learn about yourself. Your family, friends, and neighbors can also provide useful assistance.

Once you have decided what your interests are, use the *Handbook* to find occupations and areas of work that match your interests. The occupations in the *Handbook* are grouped in 20 clusters of related jobs. So, if you find that you enjoy fixing things, you might start by looking at occupations in the cluster on mechanics and repairers. Or, if you want to make helping other people your life's work, you might look at occupations in 1 of the 3 health clusters. The 20 occupational clusters are:

—Administrative and managerial occupations.
—Engineers, surveyors, and architects.
—Natural scientists and mathematicians.
—Social scientists, social workers, religious workers, and lawyers.
—Teachers, librarians, and counselors.
—Health diagnosing and treating practitioners.
—Registered nurses, pharmacists, dietitians, therapists, and physician assistants.
—Health technologists and technicians.
—Writers, artists, and entertainers.
—Technologists and technicians, except health.
—Marketing and sales occupations.
—Administrative support occupations, including clerical.
—Service occupations.
—Agricultural and forestry occupations.
—Mechanics and repairers.
—Construction and extractive occupations.
—Production occupations.
—Transportation and material moving occupations.
—Helpers, handlers, equipment cleaners, and laborers.
—Military occupations.

**About Those Numbers at the Head of Each Statement**

The numbers in parentheses that appear just below the title of most occupational statements are *D.O.T.* code numbers. D.O.T. stands for the *Dictionary of Occupational Titles* (fourth edition), a U.S. Department of Labor publication. Each number helps classify jobs by the type of work done, required training, physical demands, and working conditions. D.O.T. numbers are used by Job Service offices to classify applicants and job openings, and for reporting and other operating purposes. They are included in the *Handbook* because career information centers and libraries frequently use them for filing occupational information. An index listing *Handbook* occupations by D.O.T. number may be found just before the alphabetical index in the back of this book.

**What will I learn?**

Once you have chosen an occupation or cluster you'd like to learn more about, go to that section of the *Handbook*. Each occupational description follows a standard format. There are sections on the nature of the work; working conditions; employment; training, other qualifications, and advancement; job outlook; earnings; related occupations; and sources of additional information.

**Nature of the work.** An important part of your career decision will be whether the work done on the job appeals to you. In this section, you will discover what workers do on the job, what tools or equipment they use, and how they do their tasks. To get a better understanding of how the work in various occupations differs, you should read several different occupational descriptions and compare them. This will allow you to match your abilities, interests, and goals with the type of work done in a particular job or employment setting.

**Working conditions.** When considering an occupation, you may want to know the conditions under which you would have to work. Some working conditions may not be desirable while others may appeal to you. Most jobs offer a little of both. For example, when overtime is required, employees must give up some of their free time and be flexible in their personal lives. This is offset, however, by the opportunity to earn extra income or time off.

Evening or nightwork is part of the regular work schedule in many jobs. Bartenders, guards, and some factory workers may be required to work these shifts on a permanent basis. Workers in other occupations, such as nurses and police officers, may work nights on a rotating basis. Still other workers may be assigned to split shifts: Busdrivers, for example, may work morning and evening rush hours with time off in the middle of the day. However, some people prefer shiftwork because they can pursue leisure activities or take care of errands during daytime hours.

Work settings vary greatly. People work in office buildings; on construction sites; in mines, factories, restaurants, and stores; and on ships and planes. Some people like a quiet, air-conditioned setting; others prefer the hum of machinery. By knowing the setting of jobs you find interesting, you can avoid working in an environment that you would find unpleasant.

Many workers have to be outdoors some or all of the time. Mail carriers, construction workers, firefighters, and foresters are a few examples. Being exposed to all types of weather may be preferred to indoor work, however, by those who enjoy the outdoors and consider it healthy.

Some jobs are potentially dangerous. Cuts, burns, and falls can occur in restaurant kitchens, factory assembly lines, and forge shops, for example. Consequently, many jobs, such as mining and construction work, require the use of specially designed equipment and protective clothing.

Some jobs require standing, crouching in awkward positions, heavy lifting, or are otherwise strenuous. Be sure you have sufficient

TRANSPARENCY MASTER III.1.2

# Where to Go for More Information

Whether you have questions about a particular job or are trying to compare various fields, the *Occupational Outlook Handbook* is a good place to begin. The *Handbook* will answer many of your initial questions. But remember that it is only one of many sources of information about jobs and careers. After reading a few *Handbook* statements, you may decide that you want more detailed information about a particular occupation. You may want to find out where you can go for training, or where you can find this kind of work in your community. If you are willing to make an effort, you will discover that a wealth of information is available.

## Sources of Career Information

**Government agencies, professional societies, trade associations, labor unions, corporations, and educational institutions** put out a great deal of free or low-cost career material. Write for information to the organizations listed in the Sources of Additional Information section at the end of every *Handbook* statement. Other organizations that publish career information are listed in directories in your library's reference section. One of the largest directories is *Encyclopedia of Associations* (Detroit: Gale Research Company, 1980), a multivolume publication that lists thousands of trade associations, professional societies, labor unions, and fraternal and patriotic organizations. There are dozens of other directories, however. Ask the librarian for help in locating directories that list:

—trade associations.
—professional associations.
—business firms.
—community and junior colleges.
—colleges and universities.
—home study and correspondence programs.
—business, trade, and technical schools.

Lists of organizations that distribute career information also may be found in books and directories put out by several commercial publishers.

*A Counselor's Guide to Occupational Information*, published in 1980 by the U.S. Department of Labor, identifies pamphlets, brochures, monographs, and other career guidance publications prepared by Federal agencies. An invaluable resource for students and jobseekers as well as for counselors, *A Counselor's Guide* can be purchased for $4.00 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Orders should include the GPO stock number, 029-001-02490-8.

The National Audiovisual Center, a central source for all audiovisual material produced by the U.S. Government, provides lists of free materials in a number of subject areas, including career education. Contact the National Audiovisual Center, General Services Administration, Reference Section/PR, Washington, D.C. 20409. Phone: (301) 763-1896.

Carefully assess any career materials you obtain. Keep in mind the date and source, in particular. Material that is too old may contain obsolete or even misleading information. Be especially cautious about accepting information on employment outlook, earnings, and training requirements if it is more than 5 years old. The source is important because it affects the content. Although some occupational materials are produced solely for the purpose of objective vocational guidance, others are produced for recruitment purposes. You should be wary of biased information, which may tend to leave out important items, overglamorize the occupation, overstate the earnings, or exaggerate the demand for workers.

**Libraries, career centers, and guidance offices** are important sources of career information. Thousands of books, brochures, magazines, and audiovisual materials are available on such subjects as occupations, careers, self-assessment, and job hunting. Your school library or guidance office is likely to have some of this material; ask the staff for help. Collections of occupational material also can be found in public libraries, college libraries, learning resource centers, and career counseling centers.

Begin your library search by looking in an encyclopedia under "vocations" or "careers," and then look up specific fields. The card catalog will direct you to books on particular careers, such as architect or plumber. Be sure to check the periodical section, too. You'll find trade and professional magazines and journals in specific areas such as automotive mechanics or interior design. Some magazines have classified advertising sections that list job openings. Many libraries and career centers have pamphlet files for specific occupations. Collections of occupational information may also include nonprint materials such as films, filmstrips, cassettes, tapes, and kits. Computerized occupational information systems enable users to obtain career information instantly. In addition to print and nonprint materials, most career centers and guidance offices offer individual counseling, group discussions, guest speakers, field trips, and career days.

**Counselors** play an important role in providing career information. Vocational testing and counseling are available in a number of places, including:

—guidance offices in high schools.
—career planning and placement offices in colleges.
—placement offices in vocational schools.
—vocational rehabilitation agencies.
—counseling services offered by community organizations, commercial firms, and professional consultants.
—Job Service offices affiliated with the U.S. Employment Service.

The reputation of a particular counseling agency should be checked with professionals in the field. As a rule, counselors will not tell you what to do. Instead, they are likely to administer interest inventories and aptitude tests; interpret the results; talk over various possibilities; and help you explore your options. Counselors are familiar with the job market and also can discuss entry requirements and costs of the schools, colleges, or training programs that offer preparation for the kind of work in which you are interested. Most important of all, a counselor can help you consider occupational information in relation to your own abilities, aspirations, and goals.

Don't overlook the importance of **personal contacts.** Talking with people is one of the best ways of learning about an occupation. Most people are glad to talk about what they do and how well they like their jobs. Have specific questions lined up; you might question workers about their personal experiences and knowledge of their field. By asking the right questions, you will find out what kind of training is really important, how workers got their first jobs as well as the one they're in now, and what they like and dislike about the work. These interviews serve several purposes: you get out into the business world, you learn about an occupation, you become familiar with interviewing, and you meet people worth contacting when you start looking for a job.

**State occupational information coordinating committees** can help you find information about the job situation in your State or area. By contrast, the *Handbook* provides information for the Nation as a whole. The committee may provide the information directly, or refer you to other sources. In many States, it can also tell you where you can go to use the State's career information system. To find out what career materials are available, write to the director of your State occupational information coordinating committee. Following are their addresses and telephone numbers:

# Tomorrow's Jobs

Constant change is one of the most significant aspects of the U.S. job market. Changes in the size, age structure, and geographic location of the population, the introduction of new technology or business practices, and changes in the needs and tastes of the public continually alter the economy and affect employment opportunities in all occupations. Population growth has spurred the need for workers to provide more housing, medical care, education, and other services and goods. The use of new technology has created, eliminated, or changed the nature of hundreds of thousands of jobs. The computer, for example, has given birth to an entire new group of occupations—programmers, systems analysts, computer and peripheral equipment operators—while at the same time it has decreased the need for inventory clerks, bookkeepers, and other clerical works. Changes in the way businesses are organized and managed have had similar effects. For example, the use of centralized credit offices has reduced the need for credit managers in retail stores.

As an individual planning for a career, you should learn about changes that are expected to occur in the job market. Your interests and abilities determine the occupation that attracts you, but future economic and social conditions will determine possible job opportunities. Fortunately, most changes that alter the demand for workers in various occupations generally occur gradually over several years. By analyzing the changing nature of the economy and the factors causing these changes it is possible to project future industry and occupational employment. Although no one can forecast the future with certainty, these employment projections can help you learn about future opportunities in occupations that interest you.

The *Handbook* presents information about the job outlook for many occupations. This chapter provides a background for those discussions. In it you will find information about expected changes in the population and the labor force, as well as employment projections for major industrial sectors and broad occupational groups.

## Population

Changes in population are among the basic factors that will affect employment opportunities in the future. The demand for workers in any occupation depends ultimately on the goods and services sought by the public. Changes in the size and characteristics of the population influence the amount and types of goods and services demanded. Changes in population also affect the size and characteristics of the labor force—the people who work or are available to work—which in turn can influence the amount of competition for jobs in an occupation. Three population factors that will affect future employment opportunities are population growth, shifts in the age structure of the population, and movement of the population within the country.

*Population Growth*. The population of the United States has increased throughout the century. However, the rate of growth (the size of the annual increases) was declining until the post-World War II "baby boom," which lasted until the late 1950's. Since the 1960's, the rate of growth has declined again (chart 1).

In 1980, the population was 226.5 million. It is expected to increase by about 0.9 percent a year during the 1980's, slightly faster than during the 1970's. Continued growth will mean more people to provide with goods and services, causing greater demand for workers in many industries. The effects of population growth on employment in various occupations will differ. These differences are accounted for in part by the age distribution of the future population.

*Age Structure*. Because of the "baby boom," the proportion of people age 14 to 24 was high in the 1970's. Through the 1980's, as these young adults become older, the proportion of the population between the ages of 25 and 44 will swell. By 1990, nearly one-third of the population will be in this age group compared to 24 percent in 1970. As a result of the relatively low number of births during the 1960's and early 1970's, the number of people between the ages of 14 and 24 will decline in the coming decade. The number of people 65 and over will grow, but more slowly than in recent years. These changes in the age structure of the population will directly affect the types of goods and services demanded. For example, as the number of young people declines, the need for some education services will fall. When greater numbers of people from the baby boom establish families, they will require more housing and goods such as appliances.

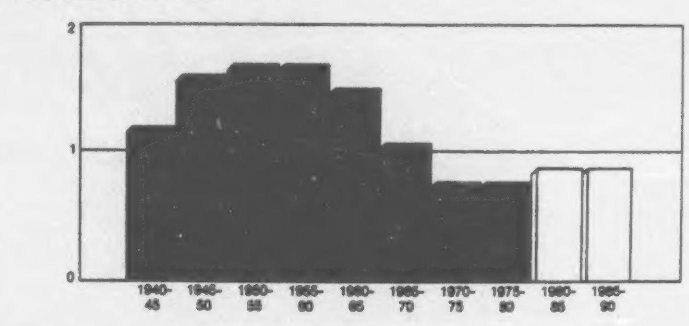
Shifts in the age structure of the population also will affect the composition of the labor force. These effects are discussed in a later section.

*Regional Differences*. National trends in population may not be the same as changes in a particular region or locality. A nation as large the United States is bound to vary from one place to another in rate of population growth. For example, between 1970 and 1980, the population of the Northeast and North Central regions increased by 0.2 percent and 4.0 percent, respectively, compared with 20.0 percent for the South and 23.9 percent in the West (chart 2). These differences in population growth reflect the movement of people to find new jobs, to retire, or for some other reason.

Geographic shifts in the population alter the demand for and supply of workers in local job markets. In areas with a growing population, for example, demand for services such as police and fire protection, water, and sanitation will increase. At the same time, in some occu-

Chart 1

**Since 1960, the population has grown more slowly**



Source: Bureau of the Census

# Assumptions and Methods Used in Preparing Employment Projections

Although the discussions of future employment contained in the *Handbook* are written in qualitative terms, they are based on quantitative estimates developed using the most recent data available on population, industry and occupational employment, productivity, consumer expenditures, and other factors expected to affect employment. The Bureau's staff specializing in developing economic and employment projections provided much of these data, but many other agencies of the Federal Government were important contributors as well, including the Bureau of Apprenticeship and Training of the Department of Labor; the Bureau of the Census of the Department of Commerce; the National Center for Education Statistics and the Rehabilitation Services Administration of the Department of Education; the Office of Personnel Management; the Interstate Commerce Commission; the Civil Aeronautics Board; the Federal Communications Commission; the Department of Transportation; and the National Science Foundation.

In addition, experts in industry, unions, professional societies, and trade associations furnished data and supplied information through interviews. Many of these individuals also reviewed preliminary drafts of the statements. The information presented in each statement thus reflects the knowledge and judgment not only of the Bureau of Labor Statistics staff, but also of leaders in the field discussed. The Bureau, of course, takes full responsibility for the published material.

Information compiled from these sources was analyzed in conjunction with alternative projections of the economy to 1990 constructed as part of the Bureau's projections program. Like other models used in projecting economic and employment development, the Bureau's system encompasses the major facets of the economy and represents a comprehensive view of its projected structure. It is comprised of a series of closely related projections encompassing labor force; gross national product (GNP); industrial output and productivity; average weekly hours of work; and employment for detailed industry groups and occupations. A detailed description of the model system appears in *The BLS Economic Growth Model System Used for Projections to 1990*, Bulletin 2112. For more detail on the projections used in developing this report, see the August 1981 issue of the *Monthly Labor Review*.

**Assumptions.** The Bureau has prepared three different scenarios of economic growth through the 1980's. Each alternative is based on the following general assumptions.

—Energy prices will not rise dramatically and alter the growth of GNP.

—The institutional framework of the U.S. economy will not change radically.

—Current social, technological, and scientific trends will continue.

—No major event such as widespread or long-lasting energy shortages or war will significantly alter the industrial structure of the economy or alter the rate of economic growth.

—Federal grants-in-aid to State and local governments will decline.

—Federal expenditures will decline as a proportion of GNP.

The differences among the scenarios reflect different sets of specific assumptions about fiscal and demographic factors, as well as productivity, employment, and price levels through the decade. The low-trend projection is characterized by assumptions of continuing high inflation, low productivity growth, and moderate expansion in real production. The high-trend I version assumes marked improvement in both inflation and productivity, greater labor force growth, and higher real production. Finally, the high-trend II version alternative assumes labor force growth consistent with the low trend, but greater productivity gains and less inflation than in the high-trend I version. Detailed information about the assumptions used in these projections is presented in *BLS Projections to 1990*, Bulletin 2121.

**Methods.** Beginning with population projections by age and sex developed by the Bureau of the Census, a projection of the total labor force is derived using expected labor force participation rates for each population group. In developing participation rates, the Bureau takes into account a variety of factors that affect decisions to enter the labor force, such as school attendance, retirement practices, and family responsibilities.

The labor force projection is then translated into the level of GNP that would be produced by the labor force at the assumed employment and unemployment levels. Real GNP then is calculated by subtracting unemployment from the labor force and multiplying the result by a projection of output per worker. The estimates of future output per worker are based on an analysis of trends in productivity (output per workhour) among industries and changes in average weekly hours of work.

Next, the projection of GNP is divided among its major components: Consumer expenditures, investment, government expenditures—Federal, State, and local—and net exports. These estimates of GNP by major component are derived using an economic model and by making assumptions about fiscal policy, taxes, and other major economic variables. Each of these major GNP components is in turn broken down by producing industry. Consumer expenditures, for example, are divided among industries producing goods and services such as housing, food, automobiles, medical care and education.

Once estimates are developed for these products and services, they are translated into detailed projections of industry output, not only for the industries producing the final product—such as an automobile—but also for the industries that provide electric power, transportation, component parts, and other inputs required in the production process. Input-output tables developed by the Department of Commerce and modified by the BLS are used to estimate output.

By using estimates of future output per workhour based on studies of productivity and technological trends for each industry, industry employment projections are derived from the output estimates. In addition, many detailed industries are studied using regression analysis. In these studies, equations are developed that relate employment by industry to combinations of economic variables, such as population and income, that are considered determinants of long-run changes in employment. The industry employment projections developed through these studies are evaluated with data generated by the basic model to develop the final industry employment projections. They also are used to develop projections for industries that are not included in the basic model.

**Occupational employment projections.** Projections of industry employment are translated into occupational employment projections using an industry-occupation matrix. The Bureau

# Administrative and Managerial Occupations

Managers and administrators achieve organizational objectives by planning and directing the activities of others. In a very small enterprise, the owner may also be the manager. However, as a business or other organization grows and becomes more complex, more people are needed to oversee the operations of the work force. Large corporations or government agencies may employ hundreds of managers, organized into a hierarchy of administrative positions.

Top level managers—executives—are primarily concerned with policymaking, planning, and overall coordination. They direct the activities of the organization through departmental or mid-level managers. Top level managers include school superintendents, police and fire chiefs, bank presidents, governors, mayors, hospital administrators, chief executive officers of corporations, department store managers, and government agency directors.

Below the top management in a large organization are the middle managers, who direct various departments. Middle managers may handle a particular area, such as personnel, accounting, sales, finance, or marketing. Or they may supervise the production process at a factory or industrial plant. Middle managers are the people who keep things running smoothly. They organize activities at the operating level and provide direct supervision.

Middle managers work with the assistance of support personnel who plan, organize, analyze, and monitor activities. Support personnel include accountants, loan officers, employment interviewers, purchasing agents and buyers, credit managers, membership directors, promotion agents, and inspectors of all kinds. Jobs such as these require technical expertise or a thorough understanding of a particular procedure or operation.

Managers and administrators are employed in virtually every type of industrial plant, commercial enterprise, and government agency. Large numbers are employed in finance, insurance, real estate, construction, public administration, health, education, transportation, and public utilities.

The accompanying table presents 1980 employment estimates for selected administrative and managerial occupations.

Because of the wide range of establishments employing managers, job duties vary greatly. For example, the manager of a fast food restaurant performs tasks that differ substantially from those of a school administrator, community organization director, or construction manager.

As the nature of the work varies, so does the level of education required. Some managers and administrators, including school principals and hospital administrators, need at least a master's degree. Positions such as these require the specialized knowledge and skills obtained through years of formal education. Other positions, including production supervisor, retail buyer, construction manager, and maintenance superintendent, may not require a college degree. People in these jobs often have worked their way up in the organization. Their main qualification is a thorough knowledge of the operating procedures of the workplace. Most managerial and administrative positions require a college education, however. In some occupations—such as accounting—continuing education is important for career advancement.

On-the-job training enables workers with management potential to "learn the ropes." Particularly in wholesale and retail trade, many managers begin as management trainees, working under the direction of more experienced managers. Management trainees may be hired from outside the organization or promoted from other positions within it. On-the-job training programs provide trainees with the specific knowledge and experience they need to perform successfully.

Despite the differences in formal education and training, successful managers are likely to have certain characteristics in common. Because they work with people, managers need to be able to get along with and motivate and influence others. They should be able to inspire confidence and respect in those who work for them.

When they make plans and set goals for their enterprise, managers work with ideas. They need organzational skills, good judgment, and decisionmaking ability. Successful managers have mastered the art of getting all the facts, coming to a decision, and communicating it effectively. They need a strong sense of initiative to be able to work without close supervision.

For some administrative positions analytical, evaluative, and promotional skills are essential. Accountants, financial analysts, and others provide the technical expertise upon which management decisions are based. Good judgment and the ability to relate to others are important for people in these occupations.

Earnings for managers and administrators vary widely. They depend on the industry and on the size and nature of the particular establishment in which the manager is employed. Earnings also vary with the level of managerial or administrative responsibility. For example, management trainees may start working at salaries that are not much higher than those of the people they supervise. Earnings increase as managers gain experience, prove their ability to handle the job, and take on additional responsibility.

On the whole, employment of managers and administrators is projected to grow about as fast as the average for all occupations through the 1980's. The growing size and complexity of both private and government enterprise is expected to require increasingly sophisticated management techniques. Therefore, the demand for trained management specialists will increase.

Employment opportunities will be better in some industries than in others, however. Little employment growth is foreseen in educational institutions during the 1980's, and therefore most job openings for school ad-

**Table 1. Employment in selected administrative and managerial occupations, 1980**

| Occupation | Employment |
|---|---|
| Accountants, auditors, and related occupations | 887,000 |
| Accountant and auditor | 833,000 |
| Tax examiner, collector, and revenue agent | 54,000 |
| Restaurant, cafe and bar manager | 557,000 |
| Sales manager, retail trade | 273,000 |
| Personnel and labor relations specialist | 178,000 |
| Purchasing agent and buyer | 172,000 |
| Inspector (except construction), public administration | 112,000 |
| Cost estimator | 86,000 |
| Underwriter | 76,000 |
| Employment interviewer | 58,000 |
| Construction inspector, public administration | 48,000 |
| Assessor | 32,000 |
| Tax preparer | 31,000 |
| Postmaster and mail superintendent | 28,000 |
| Credit analyst | 24,000 |
| Special agent, insurance | 24,000 |
| Claim examiner, property/casualty insurance | 22,000 |
| Claim taker, unemployment | 15,000 |
| Media buyer | 15,000 |
| Welfare investigator | 12,000 |
| Chief credit analyst | 8,000 |
| Safety inspector | 6,000 |

SOURCE: Bureau of Labor Statistics.

# Dictionary of Occupational Titles (D.O.T.) Index

*Dictionary of Occupational Titles (D.O.T.)* Fourth Edition numbers referenced in the occupational statements are listed in column 1. Numbers representing the classification structure of the 1980 *Standard Occupational Classification Manual (S.O.C.)*—upon which the *Handbook's* clustering arrangement is based—are listed along side the *D.O.T.* number(s) to which they correspond.

| *D.O.T. Number* | *SOC Code* | *D.O.T. Title* | *Page* |
|---|---|---|---|
| 001.061-010 | 161 | Architect | 51 |
| -018 | 161 | Landscape architect | 53 |
| 001.261 | 372 | Drafters | 222 |
| 002.061 | 1622 | Aerospace engineers | 58 |
| 002.151 | 421 | Sales engineer, aeronautical products | 58 |
| 002.167 | 1622 | Aerospace engineers | 58 |
| 002.261-010 | | Drafter, aeronautical | 222 |
| 003.061 | 1633 | Electrical engineers | 62 |
| 003.151 | 421 | Sales engineer, electrical products | 62 |
| 003.161 | 3711 | Engineering and science technicians | 223 |
| 003.167 through .187 | 1633 | Electrical engineers | 62 |
| 003.167-030 | 1633 | Engineer-in-charge, studio operations | 221 |
| -034 | 1633 | Engineer-in-charge, studio transmitter | 221 |
| -062 | 1636 | Systems engineer, electronic data processing | 72 |
| 003.261-010 | 3711 | Instrumentation technician | 223 |
| 003.281 | 372 | Drafters | 222 |
| 005.061 through .167 | 1628 | Civil engineers | 62 |
| 005.281 | 372 | Drafters | 222 |
| 006.061 | 1623 | Ceramic engineers | 60 |
| 006.151 | | Sales engineer, ceramic products | 60 |
| 006.261 | 3719 | Engineering and science technicians | 223 |
| 007.061-010 through -022 | 1635 | Mechanical engineers | 63 |
| -026 | | Tool designer | 223 |
| -034 | 1635 | Utilization engineer | 63 |
| 007.151 | 421 | Sales engineer, mechanical equipment | 63 |
| 007.161-018 | 372 | Engineering assistant, mechanical equipment | 222 |
| -022 | 1635 | Mechanical research engineer | 63 |
| -026 | 3713 | Mechanical-engineering technician | 223 |
| -030 | 3713 | Optomechanical technician | 223 |
| -034 | 1635 | Test engineer, mechanical equipment | 63 |
| 007.167-014 | 1635 | Plant engineer | 63 |
| -022 | 1635 | Tool-drawing checker | 222 |
| 007.181-010 | 3713 | Heat-transfer technician | 223 |
| 007.261 through .281 | 372 | Drafters | 222 |
| 008.061 | 1626 | Chemical engineer | 61 |
| 008.151 | 421 | Chemical equipment sales engineer | 61 |
| 008.167 | 1626 | Technical director, chemical plant | 61 |
| 008.261-010 | 3719 | Chemical-engineering technician | 223 |
| 010.061-014 | 1624 | Mining engineer | 64 |
| -018 | 1625 | Petroleum engineer | 65 |
| -022 | 1624 | Research engineer, mining-and-oil-well equipment and services | 64 |
| -026 | 1624 | Safety engineer, mines | 41, 64 |
| 010.151.010 | 421 | Sales engineer, mining-and-oil-well equipment and services | 64 |
| 010.161.010 | 1625 | Chief engineer, research | 65 |
| -014 | 1625 | Chief petroleum engineer | 65 |
| 010.167-010 | 1625 | Chief engineer | 65 |
| -014 | 1625 | District supervisor, mud analysis well logging | 65 |
| -014 | 3833 | Observer, electrical prospecting | 223 |
| -018 | 3833 | Observer, gravity prospecting | 223 |
| -022 | 3833 | Surveyor, oil-well directional | 223 |
| 010.281-010 | 372 | Drafter, directional survey | 222 |
| -014 | 372 | Drafter, geological | 222 |
| -018 | 372 | Drafter, geophysical | 222 |
| 011.061-010 | 1623 | Foundry metallurgist | 64 |
| -014 | 1623 | Metallographer | 64 |
| -018 | 1623 | Metallurgist, extractive | 64 |
| -022 | 1623 | Metallurgist, physical | 64 |
| -026 | 1623 | Welding engineer | 64 |
| 011.161-010 | 1623 | Supervisor, metallurgical-and-quality-control-testing | 64 |
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| -014 | 1634 | Safety engineer | 223 |
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| -058 | 1634 | Safety manager | 41, 63 |
| -062 | 1634 | Supervisor, vendor quality | 63 |
| 012.167-066 | 1712 | Systems analyst, electronic data processing | 72 |
| -070 | 1634 | Time-study engineer | 63 |
| 012.187 | 1634 | Industrial engineers | 63 |
| 012.261-010 | 389 | Air analyst | 41 |
| 012.267-010 | 3712 | Industrial engineering technician | 223 |
| 012.281-010 | 389 | Smoke tester | 223 |
| 013.061 | 1632 | Agricultural engineer | 59 |
| 013.151-010 | 421 | Sales engineer, agricultural equipment | 59 |
| 013.161-010 | 3719 | Agricultural-engineering technician | 223 |
| 014.061 | 1637 | Mechanical engineers | 63 |
| 014.151-010 | 421 | Sales engineer, marine equipment | 63 |
| 014.167-010 | 1637 | Marine surveyor | 63 |
| -014 | 1637 | Port engineer | 63 |
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## LEARNING EXPERIENCE II

## IMPORTANCE OF OCCUPATIONAL INFORMATION

**KEY CONCEPTS:** The *Occupational Outlook Handbook* contains information that can be incorporated into the curriculum.

It is important for students to receive occupational information.

**COMPETENCIES:** Workshop participants will be better able to—

1. identify reasons why it is important to incorporate occupational information into their curricula; and
2. give examples of how the information contained in the *Occupational Outlook Handbook* can be incorporated into their curricula.

**PERFORMANCE OBJECTIVES:** After a group discussion, the workshop participants will be able to list at least two reasons for providing occupational information to students.

After a small group discussion, workshop participants will be able to list at least two ways in which information contained in the *Occupational Outlook Handbook* can be presented to students.

---

**OVERVIEW:** The purpose of this learning experience is to make participants aware of why and how occupational information should be taught. After a warm-up exercise, the group discusses the importance of providing occupational information to all students (K-12). Then, participants work in small groups to determine how they can present occupational information to students.

---

**INSTRUCTOR'S INFORMATION:**

| | |
|---|---|
| Time | 45-60 minutes |
| Workshop Resources | *Occupational Outlook Handbook*<br>Blank sheets of paper (one for each participant) |
| Instructional Methods | Group activity<br>Large group discussions<br>Small group activity |

| Instructor's Outline | Notes |
|---|---|
| I. Introduction of the Learning Experience | |
| A. Describe the purpose of the activity—to help participants think further about occupational information and their curricula. | |
| B. Indicate that there will be a group discussion on the importance of occupational information followed by a small group discussion on how teachers can better use occupational information in the classroom. These discussions will follow the career line activity. | |
| II. Warm-Up Activity—Career Line | |
| A. Ask participants to draw a straight, horizontal line on a sheet of paper. | If your workshop participants completed the career line activity in Module II, make reference to it.<br>Be sure each participant has a blank sheet of paper and a writing instrument. |
| B. Ask them to mark one end of the line "birth" and the other end "the present" and to divide the line into five-year intervals. | |
| C. Ask participants to make a slash on the line to indicate each time they have made some type of career choice (e.g., tentative or permanent, realistic or unrealistic). | |
| D. Invite several participants to share their career line with the group. (Be sure that at least one person describes a career choice made prior to age ten years.) | |
| E. Call attention to the fact that people do make career choices at an early age (even though the choices may be tentative and/or unrealistic). | |
| F. Stress the fact that because young children think about careers, occupational information in some form should be presented as early as the primary grades. | |

| **Instructor's Outline** | **Notes** |
|---|---|
| III. Why Teach Occupational Information? | |
| A. Initiate a discussion about why occupational information should be taught. If necessary, ask starter questions such as the following: | You might want to record the responses on a chalkboard or large sheets of paper. |
| • What would an elementary (middle or senior high) school student gain from occupational information? | |
| • If occupational information is provided in elementary school, should additional information be provided in high school? Why? | |
| • How would the information for a high school student differ from that given to a middle school student? | |
| • Are there any reasons for not presenting occupational information to a primary student? If so, what are they and how could they be addressed? | |
| B. Summarize the responses and highlight the following ideas: | |
| • Accurate occupational information is a necessary component of career decision making. | |
| • The community can be thought of as the labor market. Students need appropriate information regarding the occupations required within that labor market. | |
| • Students at all grade levels are interested in the world of work and what it involves. | |
| • As students mature and begin to explore specific careers, the level of information they need will increase and require more detail. | |
| IV. How the *OOH* Can Be Used | |
| A. Indicate to participants that they will be identifying ways in which they can use the *Occupational Outlook Handbook* with their students. | |
| B. Divide the participants into small groups of two to three persons each. Attempt to make the groups as homogeneous as possible (e.g., by subject and grade level). | |

| Instructor's Outline | Notes |
|---|---|
| C. Ask the groups to scan the *OOH* and determine ways in which occupational information can be used in their classrooms.<br>1. Secondary teachers can provide the *OOH* as a resource to their students.<br>2. Elementary teachers will have to use the *OOH* as a resource for themselves and translate the information for their students. | Be sure each group has at least one copy of the *OOH*. |
| D. Have the groups report back on their ideas for using the *OOH*. | List the ideas on the chalkboard or large sheets of paper. |
| E. Summarize the exercise by pointing out the value of all ideas; stress those that are most useful for infusion activities. | |
| V. Summary of the Learning Experience | |
| A. Reemphasize the importance of imparting occupational information to students at all grade levels and in all subject areas. | |
| B. Indicate that participants should now have a better understanding of the *Occupational Outlook Handbook* and how it can be used with students. | Administer Competency Opinionnaire (post-workshop) on page III-61 and Workshop Effectiveness form on page III-62 (if appropriate). |
| C. Mention that in Modules I and II all aspects of career development knowledge were presented. However, the use of occupational information will be the emphasis in the remaining modules. | |

# EVALUATION TECHNIQUES

Prior to the workshop, the instructor should administer the Competency Opinionnaire to determine how competent the participants think they are in the topics to be taught. The Opinionnaire (Post-Workshop) is to be administered again at the end of the workshop to identify the level of competency growth. The instructor also should make specific observations during the workshop activities to measure attainment of the performance objectives. An additional instrument is designed to obtain data on the effectiveness of the workshop techniques.

The following questionnaires relate to this module. When more than one module is being taught, the instructor can develop a comprehensive pre workshop and post-workshop competency opinionnaire that addresses all of the modules.

## ASSESSING PARTICIPANTS' MASTERY OF PERFORMANCE OBJECTIVES

The instructor's outline suggests activities that require written or verbal responses. The following list of performance indicators will assist you in assessing the quality of the participants' work.

**Module Title:** The *Occupational Outlook Handbook* and Occupational Information

**Module:** III

| Major Activities | Performance Indicators |
|---|---|
| Learning Experience I | |
| 1. Completing the worksheet "Questions from the *OOH*" | 1. Were participants able to answer at least seven of the ten questions correctly? |
| | 2. For the questions they missed, do participants understand how the answers were determined? |
| 2. Locating information in the *OOH* related to a "dream" occupation | 1. Were participants able to locate information on a specific occupation? |
| Learning Experience II | |
| 1. Discussing reasons to teach occupational information | 1. Did the majority of participants take part in the discussion? |
| | 2. Were the participants able to provide valid reasons for teaching occupational information? |
| | 3. Did the group come to an informal consensus on at least two reasons for teaching occupational information? |
| 2. Identifying ways of using occupational information with students | 1. Did each small group identify at least two ways they could use the *OOH* in their classrooms? |

## COMPETENCY OPINIONNAIRE

**Directions:** For each statement that follows, assess your presnet competency. For each competency statement, circle one letter.

---

### YOUR COMPETENCE

Assess your present knowledge or skill in terms of the following statements:

a. Exceptionally competent: My capabilities are developed sufficiently to teach this competency to other people.

b. Very competent: I possess most of the requirements but can't teach them to other people.

c. Minimally competent: I have few requirements for this competency.

d. Not competent: I cannot perform this competency.

| COMPETENCY STATEMENTS (PRE-WORKSHOP) | COMPETENCE (circle one) | | | |
|---|---|---|---|---|
| 1. Locate specific information within the *Occupational Outlook Handbook.* | a | b | c | d |
| 2. Identify reasons why it is important to incorporate occupational information into your curriculum. | a | b | c | d |
| 3. Give examples of how the information contained in the *Occupational Outlook Handbook* can be incorporated into your curriculum. | a | b | c | d |

| COMPETENCY STATEMENTS (POST-WORKSHOP) | COMPETENCE (circle one) | | | |
|---|---|---|---|---|
| 1. Locate specific information within the *Occupational Outlook Handbook.* | a | b | c | d |
| 2. Identify reasons why it is important to incorporate occupational information into your curriculum. | a | b | c | d |
| 3. Give examples of how the information contained in the *Occupational Outlook Handbook* can be incorporated into your curriculum. | a | b | c | d |

HANDOUT

## WORKSHOP EFFECTIVENESS—MODULE III

NAME (Optional)______________________________ TITLE__________________________

INSTITUTION_________________________________________________________________________

ADDRESS__________________________________________ TELEPHONE_______________

1. To what extent were the materials, processes, and organizational aspects of the module successfully used in the presentation and delivery of the module. For those materials, processes, or organizational aspects that you marked as "unsuccessful" or "slightly successful," provide brief comments as to how they might be improved.

| Success | | | | Materials/Processes | Comments |
|---|---|---|---|---|---|
| Unsuccessful | Slightly | Moderately | Very Successful | | |
| | | | | **Materials** | |
| 1 | 2 | 3 | 4 | Handouts/Worksheets | |
| | | | | Transparencies | |
| | | | | **Processes** | |
| 1 | 2 | 3 | 4 | Lecture Presentations | |
| 1 | 2 | 3 | 4 | Large Group Discussions | |
| 1 | 2 | 3 | 4 | Small Group Sessions | |
| | | | | **Organizational Aspects** | |
| 1 | 2 | 3 | 4 | Module Organization in Terms of the Logical Flow of Ideas | |
| 1 | 2 | 3 | 4 | Important Concepts Reinforced | |
| 1 | 2 | 3 | 4 | The Mix of Activities Helpful in Maintaining Interest | |

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2. Indicate those aspects of the module that you liked most and those that you liked least.

| Liked Most | Comments |
|---|---|

| Liked Least | Comments |
|---|---|

3. SUGGESTIONS: Please provide suggestions or comments that you have for improving the workshop, workshop materials, and so on.

## RESOURCES

The materials listed below provide additional information on how to use the *Occupational Outlook Handbook*.

*Improved Career Decision Making through the Use of Labor Market Information*. U.S. Department of Labor, Employment and Training Administration, Office of Policy, Evaluation and Research, Division of Labor Market Information. U.S. Government Printing Office, Washington, D.C., 1982.

This training guide is designed to help high school, job service, vocational rehabilitation, and CETA counselors become more knowledgeable of labor market information. It contains eight competency-based units. The unit entitled "National Occupational and Labor Market Information for Counseling" describes various sources of occupational and labor market information. The *Occupational Outlook Handbook* and related documents are presented, and workshop activities aid counselors in learning how to use the publications.

*Desk Reference: Techniques and Procedures for Facilitating Career Counseling and Placement*. Jan L. Novak and Wayne A. Hammerstrom. The National Center for Research in Vocational Education, The Ohio State University, Columbus, Ohio, 1977.

This document is one of sixteen in the *Rural America Series*. The series suggests practices that rural schools can use to meet the local community's career guidance needs. This handbook is designed to help answer questions dealing with career guidance, including how to infuse it into the classroom, how to get occupational and educational information, how to select the information materials, how to organize the materials, and how to store them. One section of the publication addresses how to use the *Occupational Outlook Handbook*.

## REFERENCES

U.S. Department of Labor, Bureau of Labor Statistics. *Occupational Outlook Handbook*, 1982-83 edition. Washington, DC: U.S. Government Printing Office, published biennually.

# INTRODUCTION

This module deals with labor market concepts that are extremely important to career exploration. The information presented in this module is interrelated with the economic concepts presented in Module V. Underlying the discussions of this module should be the understanding that (1) many dramatic changes are happening in the labor market and (2) adaptability to changing conditions is becoming more important than ever before.

**CATEGORY:** Labor Market

**KEY CONCEPTS:**

1. The labor market is the interaction of people competing for jobs (occupations) and employers (industries) competing for workers. These job seekers and workers constitute the labor force. The supply of workers and the demand for workers affect each other.
2. An industry can be classified by the goods and/or services it produces.
3. An occupation can be classified by the major tasks a worker performs.
4. Although each industry has its own occupational composition, some occupations are found in many different industries.
5. Despite the importance of employment growth, most job openings result from replacement needs.

**COMPETENCIES:** After completion of this module, workshop participants (teachers of various subjects) will be better able to—

1. explain the idea of supply and demand as it relates to the labor market,
2. describe an activity that infuses into their curricula the concept of the labor market,
3. classify industries as providers of goods or services,
4. describe an activity that infuses an example of goods-producing or service industries,
5. classify occupations according to various classification systems,
6. describe an activity that infuses into their curricula occupational classification activities,
7. explain the concept of occupational transferability,

8. describe an activity that infuses into their curricula the idea that many occupations can be found in different industries,

9. provide examples of industries that have job openings due to (a) employment growth and (b) replacement needs, and

10. describe an activity that infuses into their curricula material on reasons for a favorable outlook of an occupation.

## LEARNING EXPERIENCE I

## LABOR MARKET

**KEY CONCEPT:** The labor market is the interaction of people competing for jobs (occupations) and employers (industries) competing for workers. These job seekers and workers constitute the labor force. The supply of workers and the demand for workers affect each other.

**COMPETENCIES:** Workshop participants will be better able to—

1. explain the idea of supply and demand as it relates to the labor market and
2. describe an activity that infuses into their curricula the concept of labor market.

**PERFORMANCE OBJECTIVES:** Workshop participants will complete correctly fill-in questions relating to labor market dynamics.

Workshop participants will develop an infused lesson that relates to the above concept and uses information from the *Occupational Outlook Handbook*.

---

**OVERVIEW:** The purpose of this learning experience is to explore aspects of the labor market. Participants learn about the interaction between employers and employees and how each affects the other. The learning experience refers to economic concepts and includes time for participants to develop an infused lesson.

For additional information on this concept, refer to the handout "The Labor Market" found on page IV-13. Also, contact your local department of labor and job service personnel. (They may be interested in presenting information on the labor market.)

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**INSTRUCTOR'S INFORMATION:**

| | |
|---|---|
| Time | 90 minutes |
| Workshop Resources | *Occupational Outlook Handbook* (1982-83 edition) |
| | **Handout/Worksheet Masters**<br>The Labor Market—page IV-13 |

Role Cards—page IV-16
Hypothetical Wage History—page IV-17
Labor Market Dynamics—page IV-18
Model Lesson Plan—page IV-19
Lesson Plan Format—page IV-20

**Transparency Masters**
Definitions—page IV-21
Underemployment—page IV-23
Labor Market Dynamics—page IV-25
Labor Market—page IV-27
Replacement Needs—page IV-29
Prime Age Worker Growth—page IV-31
Labor Force Growth—page IV-33
Supply and Demand—page IV-35
Worker Supply—page IV-37

Instructional Methods
Group discussion
Individual activities
Small group activities

| Instructor's Outline | Notes |
|---|---|
| I. Introduction of Learning Experience | |
| A. Indicate the purpose of this activity—to explore various aspects of the labor market. | Administer the pre-workshop portion of the "Competency Opinionnaire"—found on page IV-102. |
| B. Emphasize to participants that this learning experience will culminate in writing an infused lesson. | |
| II. What Is the Labor Market? | |
| A. Use the information on transparency IV.I.1 as the basis for discussion questions to introduce this activity. Limit the time spent on this activity by explaining that these ideas will be discussed in detail during the module activities. | Show transparency IV.I.1—"Definitions"—found on page IV-21. |
| 1. The correct answer to the first item on the transparency is "D." Also, the labor force does not include discouraged workers, school attendees, retired people, disabled people, or homemakers. | |
| 2. The correct answer to the second item is "C." Anyone not in the labor force as defined in this statement is not considered in unemployment statistics. | |
| B. Explain that the labor market includes workers, and employers who are seeking employees. The first group is further broken down as follows: | Refer to the handout—"The Labor Market"—found on page IV-13 for additional information. |
| 1. Employed—people who are working for compensation either full-time or part-time, or who worked fifteen hours or more as unpaid workers in an enterprise operated by a member of the family. | List terms on the chalkboard or a large sheet of paper for reference. |
| 2. Unemployed—people who are not working but are able to and are actively seeking work. | |
| 3. Underemployed—people who are working for compensation but are earning less than their potential because of inability to find full-time work or work at their level of training/experience. | |

| Instructor's Outline | Notes |
|---|---|
| Use transparency IV.I.2 as an example of underemployment. The answer is "C" because all other choices are examples of people employed at or above their level of training. | Show transparency IV.I.2—"Underemployment"—found on page IV-23. |
| 4. Discouraged workers—people who are able-bodied but have given up looking for work because they feel it is useless. These people are not included in unemployment statistics. (Also not classified as employed or unemployed are persons engaged in own home housework.) | |
| C. Have some participants select and read cards that describe specific types of workers. Other participants classify the worker according to the categories just described. | Use "Role Cards" found on page IV-16. Cut cards and place them on index cards prior to the session. The correct categories are in parentheses on the role cards. |
| D. Explain labor market dynamics by using transparency IV.I.3 and providing the following information: | Show transparency IV.I.3—"Labor Market Dynamics"—found on page IV-25. |
| 1. The two segments of the labor market are—<br>a. households (the source of workers) and<br>b. employers (the source of jobs). | Refer to the handout—"The Labor Market"—found on page IV-13. |
| 2. Households supply—<br>a. those currently employed,<br>b. new entrants (people who have not worked), and<br>c. re-entrants (people who once worked) to the labor market. | |
| 3. Employed people include—<br>a. newly hired workers,<br>b. recalled workers,<br>c. transferred workers, and<br>d. steadily employed workers. | |
| 4. People voluntarily leave the labor market to—<br>a. care for family,<br>b. retire, and<br>c. quit to return to school, etc. | |

| Instructor's Outline | Notes |
|---|---|
| 5. People involuntarily leave the labor market because of—<br>a. death,<br>b. layoff, and<br>c. disability. | |
| 6. A discouraged worker is one who is jobless and has given up looking for work. | |
| III. Supply and Demand of the Labor Market | |
| A. Use transparency IV.I.4 to introduce this section on labor market supply and demand. Mention the following: | Show transparency IV.I.4—"Labor Market"—found on page IV-27. |
| 1. Households (people) include both the population in the labor force (employed and unemployed) and those not in the labor force (students, homemakers, disabled, youth, retirees). | |
| 2. Employers (jobs) include filled jobs and job vacancies. | |
| 3. The number of filled jobs is decreased by layoffs. | |
| 4. The number of job vacancies is increased by those who quit, retire, or die and those who are newly hired or recalled. | |
| B. Present the following ideas about supply and demand. Stress the fact that worker supply/demand statistics tend to be inexact because of variable reporting systems. Some statistics are based on surveys, some on unemployment filings, and some are little more than estimates. | Refer to the handout—"The Labor Market"—found on page IV-13. |
| 1. The labor market tends to be self-leveling in that an increasing demand for a specific job encourages more workers to prepare for that occupation. Of course, this principle never operates as simply in practice, and there are always lags as worker supply reacts to demand. | |

| Instructor's Outline | Notes |
|---|---|
| 2. Demand for workers results from growth needs and from replacement needs. As transparency IV.I.5 shows, replacement needs result from both occupational transfers, and labor force separations (deaths, retirements). | Show transparency IV.I.5—"Replacement Needs"—found on page IV-29. |
| 3. The supply of workers is determined in part by the number of the following:<br>High school/other school graduates<br>Vocational education graduates<br>Apprentices<br>Job changers<br>Returning workers<br>Immigrants | List on chalkboard or large sheet of paper. |
| 4. As transparencies IV.I.6 and IV.I.7 show, the number of actual workers in the primary working age range (25-54) will grow throughout the 1980s, even though the number of new workers entering the labor force will gradually decline to reflect the end of the post-World War II baby boom. | Show transparency IV.I.6—"Prime Age Worker Growth"—and transparency IV.I.7—"Labor Force Growth"—found on pages IV-31 and IV-33. |
| C. Use transparency IV.I.8 as the basis for discussing supply and demand for one occupation in one city. Emphasize that there are no absolutely correct answers. Ask participants to provide answers for each blank. The following are probably answers for each blank. | Show transparency IV.I.8—"Supply and Demand"—found on page IV-35. |
| 1. The logical answer would be 0 since there are 100 unfilled openings. There are now a total of 480 machinist positions. | |
| 2. Any number between 0 and 480 could be logical, depending on the participant's reasoning. For example, it is possible that the equipment installation increases costs, which forces a temporary shutdown of both plants and means no machinists are employed. | |
| 3. This number should logically equal 480 minus the preceding answer. Participants could justify different numbers. For example, the number might be fewer if some laid-off machinists decide to retire. | |

| Instructor's Outline | Notes |
|---|---|
| 4. The answer is 125 (the number of laid-off workers plus the number of new apprentices). | |
| 5. This number should logically be 0 because the number of employed machinists does not equal 480 and there are new apprentices. | |
| D. Use the questions on transparency IV.I.9 to encourage discussion relating to supply and demand. Ask participants to indicate what they think the best answers are. | Show transparency IV.I.9—"Worker Supply"—found on page IV-37. |
| 1. The best answer to the first item is "C." "A," "B," and "D" all contribute to the demand for workers. For example, low educational requirements usually means a greater supply of potential workers. | |
| 2. The best answer to the second question is "D." The first two answers obviously would cause a surplus. Answer "C" is not the best choice because high wages usually lead to many job applicants. This discussion provides an opportunity for pointing out that wages and required skills are not always related (e.g., stenographer). | |
| E. Indicate that wages are a component of labor market supply and demand. Present the following theoretical descriptions: | |
| 1. As demand increases, employers tend to raise wages to attract more workers. | |
| 2. An oversupply of workers tends to depress wages. Of course, other factors, such as minimum wage laws and union settlements, moderate the effect of worker oversupply. | |
| F. Divide the participants into groups of two or three people to complete the worksheet "Hypothetical Wage History." Stress that there are no right or wrong answers but that the participants should get the feel of wage/worker supply trends. Suggest that the notes at the bottom of the worksheet be consulted. The answers at each of the four events marked on the scale should reflect the following from supply/demand responses: | Distribute worksheet—"Hypothetical Wage History"—found on page IV-17. |
| 1. Wage should rise. | |
| 2. Wage should fall. | |

| Instructor's Outline | Notes |
|---|---|
| 3. Wage should stay the same or fall. | |
| 4. Wage should rise. | |
| IV. Labor Market Dynamics Questions | |
| A. Have participants complete the worksheet "Labor Market Dynamics." | Distribute worksheet—"Labor Market Dynamics"—found on page IV-18. |
| B. Present the answers: | |
| 1. Employers | |
| 2. Entrants and re-entrants | |
| 3. Employed | |
| 4. Layoffs and disability | |
| 5. Family responsibility and retirement | |
| 6. Discouraged workers | |
| C. Discuss any questions participants have about the answers. Refer back to your discussion of the labor market dynamics transparencies. | |
| V. Labor Market and the *OOH* | |
| A. Indicate that the *Occupational Outlook Handbook* makes reference to labor market supply and demand in the following sections: | Workshop participants should thumb through the *OOH* and refer to the sections as they are discussed. |
| 1. The section titled "Tomorrow's Jobs" (page 8 of the 1982-83 edition) addresses the issues discussed in this learning experience. | Indicate that this section is available as a handout in Module III. |
| 2. The descriptions of occupations include references to supply and demand in the labor market. | |
| 3. The section titled "Job Outlook" for each occupation addresses supply and demand for that particular occupation. | |

| Instructor's Outline | Notes |
|---|---|
| 4. The discussion of job outlook for radio and TV announcers and newscasters, found on page 196 of the 1982-83 *OOH*, is a good example of supply and demand. Have participants read through this description and discuss the supply (high) and demand (low for bigger stations—high for smaller radio stations). | |
| B. Have participants use the *OOH* to discover and list supply and demand information for three occupations of their choice. | |
| VI. Infusion and the Labor Market | |
| A. Explain that in this activity the participants will write lesson plans. | Distribute handout—"Model Lesson Plan"—found on page IV-19. |
| B. Divide participants into two groups. Each subgroup should appoint a leader and a recorder. | Distribute "Lesson Plan Format" found on page IV-20. |
| C. Have each subgroup write an infused lesson based on actual lesson plans used by the participants in which use of the *OOH* is included. | Use the *OOH*. |
| D. (Optional Activity) Each subgroup can present its ideas to the other in a brief discussion. Suggestions may then be made. | |
| VII. Wrap-Up | |
| A. Indicate that this learning experience was designed to provide an introduction to the concept of supply and demand in the labor market. Abstracts of additional sources of information are provided in the "Resources" section of the module. | |
| B. Mention that the next learning experience addresses classifications of occupations and industries. | |

# THE LABOR MARKET

Any labor market is in a constant state of flux: new workers join the labor force; older workers retire; women reenter after raising families; people change occupations; summer workers return to school; apparel, construction, farm, and retail trade workers enter or leave employment according to the vagaries of seasonal cycles; manufacturing workers are laid off or are recalled to work as factory orders fall or climb; and recently discharged armed forces personnel reenter the civilian job market. All of the human flow—its size, direction, and velocity—is influenced by forces of which we are dimly aware, by economic abstractions that are, nevertheless, quite real in their effect. Their effects are felt through such phenomena as levels of investment and savings, aggregate consumer demand for goods and services, levels of prices and of unemployment, degrees of technology and innovation, the growth of the money supply, the comparative advantage of U.S. goods in international trade, interest rates, the elasticity of demand for given commodities, the degree of competition in particular industries, national productivity, and real income.

For most occupations the applicable labor market area is *local*. That is, the supply of qualified workers required to meet most of the demands of most employers within a relatively limited geographical area is found within the same area. The fact of "localization" for many occupations within the labor market structure of the area may be caused by many factors, such as commuting limits, union jurisdictions, the skill levels of workers required by area industries, and the existence of study/work programs.

The *national* labor market includes individuals in occupations with nationwide mobility and demand. In these occupations employers will often pay for moving expenses and assist in employee relocation. A few among the many possible examples are: commercial airline pilot; college teacher; oil fire fighter; scientist; tool and die maker; demolition expert; computer programmer; engineer; construction specialists, such as tunnel, bridge, and subway builders; and corporate manager. Another example is petroleum engineer; individuals in this occupation might find employment even within the international job market. Occupations in the federal civil service could also be added to the list. Some individuals may have even achieved prominence and be sought after on an individual basis. All in all, the national labor market requires of most participants a high level of training and experience. The number of individuals working in occupations with such characteristics is relatively small.

The *supply of labor* consists of the reservoir of unemployed workers *plus* the employed. Given the constant change and flow of the labor market, we may arbitrarily term this *current supply* under the assumption that all activity can be stopped at any point for a "snapshot" of conditions. Additionally, there is *potential supply*, made up of the current supply of workers plus a pool of potential entrants into the labor market given the right conditions. Such conditions might include a rise in the level of wages, the opening or expansion of plants and facilities, the demand for new goods or services, the establishment of innovative programs of vocational training, or the letting of government contracts for special projects (e.g., the space program).

The *demand for labor* by employers is determined by the strength of what may be termed the *product market*, which is the demand of households for goods and services produced by employers. Labor demand is represented by the totals of employed persons and available job vacancies. Thus, the employed are found on both the supply and demand sides of the labor market equation. The employed person acts at the same time as a signal of the demand for his or her labor and as part of the existing labor supply because of freedom to move from job to job and place to place.

*Potential demand* consists of anticipated future levels of total employment in a labor market, industry, or occupation and attendant expected volumes of job vacancies arising due to retirements or other job separations at those employment levels. Potential demand is derived from estimates based on growth trends in particular industries and occupations, which in turn are based on the expected demand for the products or services produced by each industry and technological innovations and changes in various industries.

The *labor force* consists of all persons sixteen years and older who are either in the armed forces, working, or unemployed and actively looking for work. Persons temporarily separated from their jobs by vacations, bad weather, labor disputes, illness, or other personal reasons are considered to be still attached to their jobs and are counted in the labor force.

*Employment* is defined as any work of at least an hour for pay or profit or fifteen hours without pay in a family enterprise during the survey week, which is the week including the twelfth day of the month.

*Unemployment* means that, besides having no job during the survey week, the person out of work is taking some specific action to find a job.

The category *not in the labor force* denotes the group of people who are not working or actively seeking work. Individuals in this group may be busy with family responsibilities, in school, retired, or disabled, or they may be *discouraged workers*—those who want a job but are not looking for work because they do not expect jobs to be available. Discouraged workers are not included among the unemployed, by definition.

An area's *unemployment rate* is simply the quotient obtained, in percent form, by dividing the number of unemployed by the number in the labor force (employed plus unemployed). Both national and state unemployment rates are available from the Current Population Survey for various categories, such as youth, occupational groups (e.g., white-collar workers), minorities, women, older workers, industry groups (e.g., manufacturing workers), and many others.

For smaller geographic areas, only the overall unemployment rate is available. Information on subgroups of unemployed persons in these smaller areas is limited to analysis of the characteristics of the *insured unemployed*, who are those eligible for and receiving unemployment insurance benefits. The insured unemployed usually comprise about half of all unemployed persons. Their representation rises during severe downturns, as higher levels of unemployment trigger various extensions, under federal law, of the duration of benefits, or during seasonal upsurges caused by layoffs of seasonal workers, such as those in the apparel and construction industries.

Workers are classified thus: *white-collar workers* include professional and technical personnel, nonfarm managers and administrators, and sales and clerical workers; *blue-collar workers* include craftworkers, operatives (transport and nontransport), and nonfarm laborers; and *service workers* and *farm workers* are in separate occupational categories from white- and blue-collar workers, and are sometimes called gray-collar workers.

*Younger workers* are those aged sixteen through nineteen years, although sometimes a broader range of sixteen through twenty-one or sixteen to twenty-four is used.

*Older workers* is an ill-defined category, and there is no general agreement on the age cutoff. The Job Service considers forty-five years and older to denote this group, but some agencies use fifty-five and older, while others use forty and older.

*Part-time workers* are those working fewer than thirty-five hours per week. They may be working part-time voluntarily or for economic reasons (slackening in industrial orders, for example).

The unemployed are composed of *job losers*, *job leavers*, *new entrants*, or *reentrants* in the labor market. *Long-term unemployment* is defined as a spell lasting fifteen weeks or longer.

# ROLE CARDS

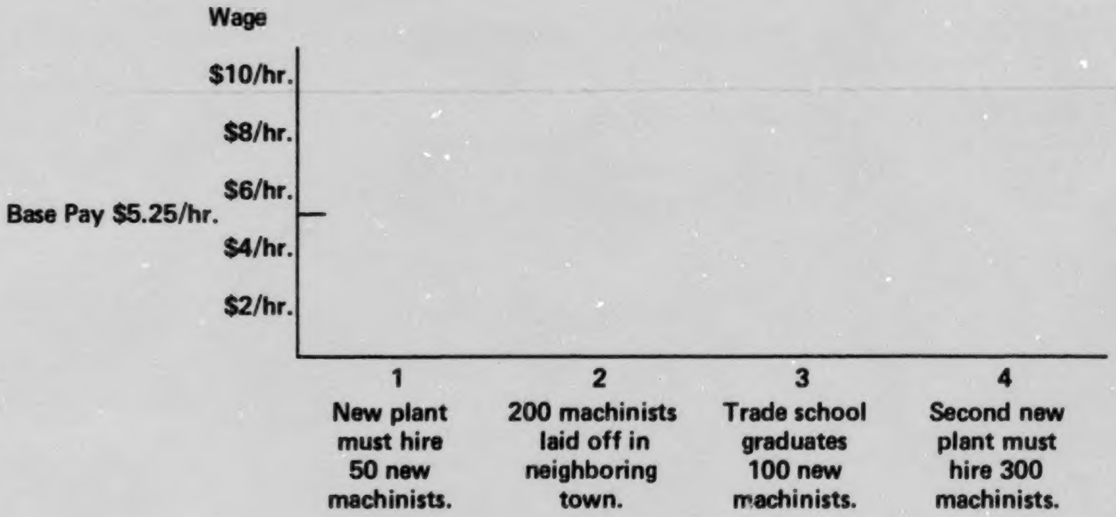
**Worker Role Cards (cut on lines) Make copy of page and cut the copy.**

| | |
|---|---|
| I am a teacher who is working part-time because I am also completing my MA. (Employed) | I am a doctor whose practice includes hospital, nursing home, and private office duty. (Employed) |
| I am a secretary who was injured in an accident and am now ready to return to work when I can find a new job. (Unemployed) | I am a teenage student who can't find a job but am still looking. (Unemployed) |
| I am a plumber who was laid off two months ago, I want to work. (Unemployed) | I am a parent who is working part-time in order to allow me more family care time. (Employed) |
| I am an auto worker who was laid off two years ago. I want to work but gave up looking. (Discouraged worker) | I am a teacher who is driving a cab because there are no teaching jobs. (Underemployed) |
| I am a full-time student working twenty hours a week at "Hamburger Haven." (Employed) | I am a cab driver who just started a part-time job in Macy's. (Employed) |
| I am a house painter who has just been laid off. I've got to get another job. (Unemployed) | I'm a laid-off salesman who hasn't found anything in two years. I have given up looking. (Discouraged worker) |
| I am a PhD who is working as a carpenter because I can't get a teaching job. (Underemployed) | I am a machinist who has just been put on the assembly line at a pay cut. (Underemployed) |
| I am a truck driver who works sixty hours a week. (Employed) | I am a school principal who will retire at the end of this year. (Employed) |
| I am a working designer who is looking for a new job to increase my pay. (Employed) | I am a full-time homemaker. (Not in the labor force) |

# HYPOTHETICAL WAGE HISTORY

**Directions:** Complete the graph below using hypothetical pay scales. Assume that there is no union.

**Machinists' Pay**



NOTE: Wages tend to rise when there is a shortage of workers.

Wages tend to fall when there is a surplus of workers.

Union settlements usually moderate these trends, but there is no union in this case.

## LABOR MARKET DYNAMICS

1. The two major sectors of the labor market are households and ________________.

2. Households supply the labor market with rehires, ________________, and ________________.

3. Workers who transfer are part of the ________________ sector of the labor market.

4. Reasons for involuntarily leaving the labor market include death, firings, ________________, and ________________.

5. Reasons for voluntarily leaving the labor market include quitting for ________________ and ________________.

6. The long-term unemployed who believe that there are no jobs for them and give up looking for work are classified as ________________.

## MODEL LESSON PLAN

**Title:** Hiring People

**Grade Level:** 7 **Subject Area:** Social Studies/Math

**Lesson Goal:** The student will learn that the labor market is the interaction of people competing for jobs (occupations) and employers (industries) competing for workers. These job-seekers and workers constitute the labor force. The supply of workers and the demand for workers affect each other.

**Lesson Objective:** The student will be able to compare the unemployment rate of the state to the nation on a monthly basis using statistics from the newspaper.

**Time Requirement:** 30 minutes per month

**Description of Activity:**

1. The teacher either copies newspaper articles on state/national unemployment rates or summarizes these for students.
2. Each student compares the two rates by:
   a. total numbers involved—employed/unemployed
   b. percentage rates of state and national
   c. percentage difference between state and national figures
3. (Optional) The class creates a graph of its own design to track its findings.

**Resources:**

**Materials:** Newspaper article or factsheets

**Equipment:** Class graph

**Evaluation:** Each student will obtain the correct answers to 2a and 2b.

**Source:** *Career Education in Schalmont*, Schenectady, New York

WORKSHEET

# LESSON PLAN FORMAT

**Title:**

**Grade Level:** **Subject Area:**

**Lesson Goal:**

**Lesson Objective(s):**

**Time Requirement:**

**Description of Activity:**

**Resources:**

- **Materials:**
- **People:**
- **Space/Equipment:**

**Evaluation:**

# DEFINITIONS

Labor force is defined as the total number of:

A. the population working
B. the working age population
C. the employed in the population
D. employed and unemployed in the population

The unemployment rate is defined as the:

A. number of unemployed
B. percent of the working age population unemployed
C. percent of the labor force unemployed
D. number of people who have given up looking for work

TRANSPARENCY MASTER IV.I.1

# UNDEREMPLOYMENT

An example of an under-employed person is a:

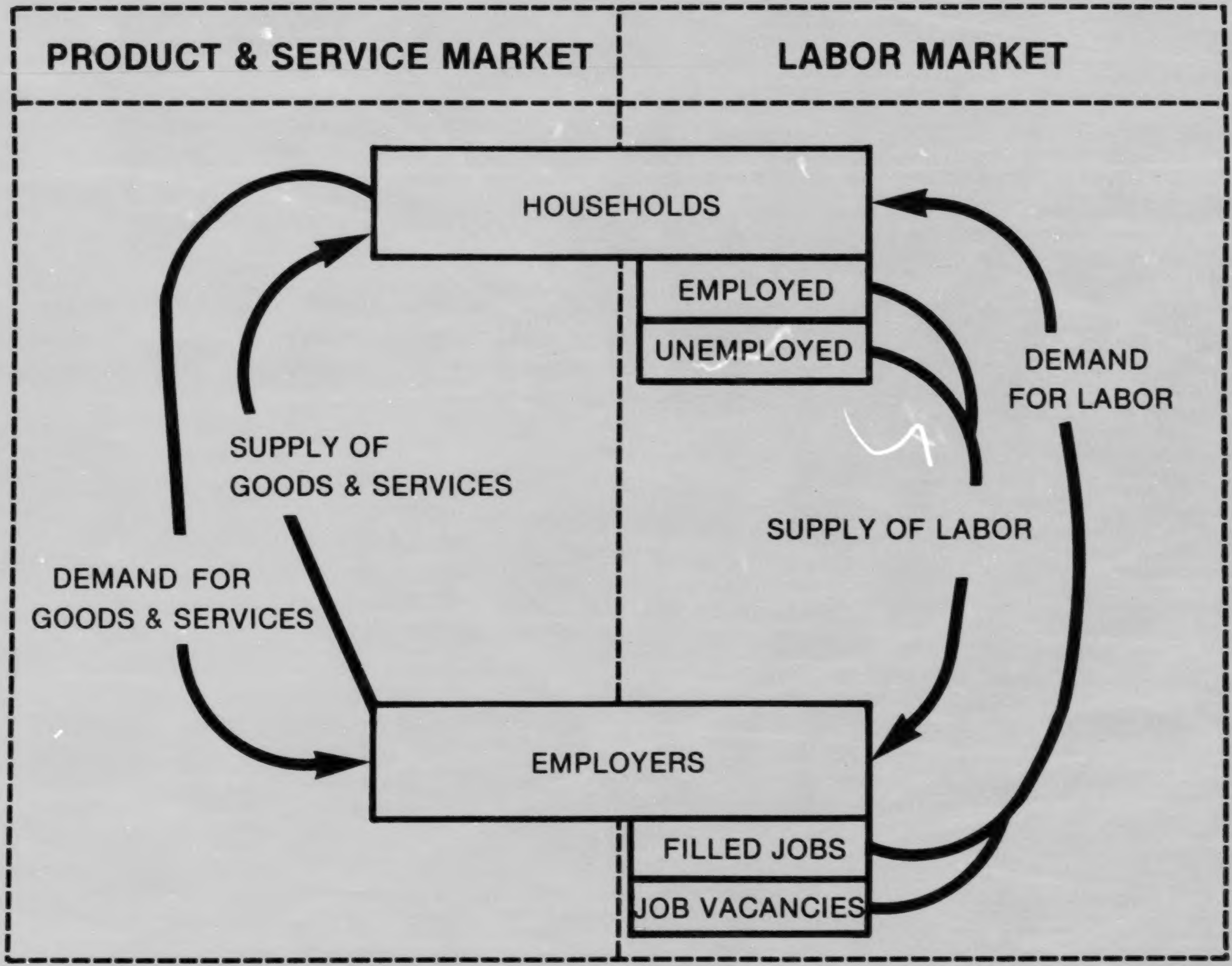
A. cook working as a chef

B. teacher who is principal

C. head waiter working as a bus-boy

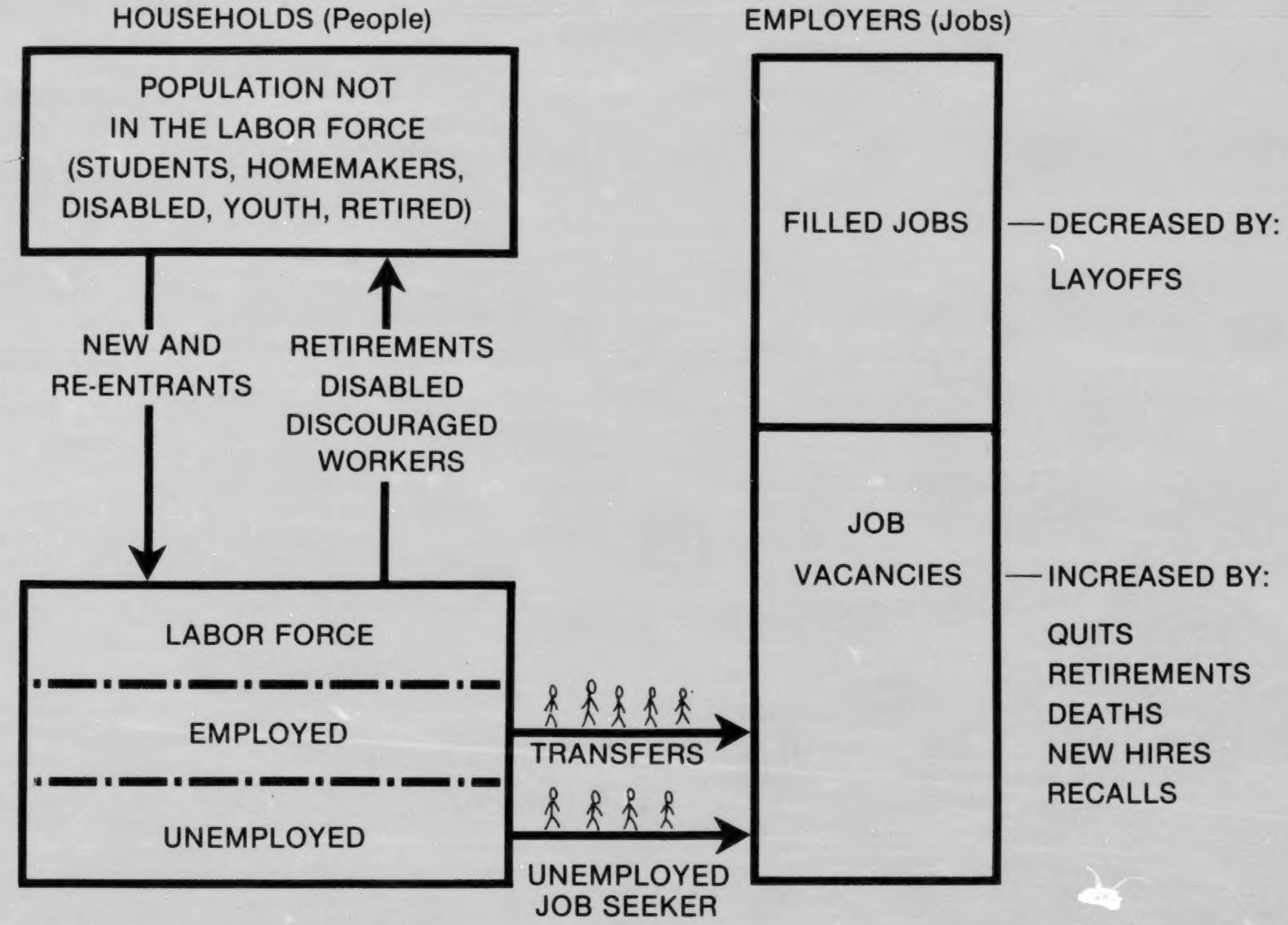
D. steno working as an executive secretary

# LABOR MARKET DYNAMICS


PRODUCT & SERVICE MARKET
LABOR MARKET
HOUSEHOLDS
EMPLOYED
UNEMPLOYED
SUPPLY OF GOODS & SERVICES
DEMAND FOR GOODS & SERVICES
DEMAND FOR LABOR
SUPPLY OF LABOR
EMPLOYERS
FILLED JOBS
JOB VACANCIES

TRANSPARENCY MASTER IV.I.3

# LABOR MARKET



HOUSEHOLDS (People)

POPULATION NOT IN THE LABOR FORCE (STUDENTS, HOMEMAKERS, DISABLED, YOUTH, RETIRED)

NEW AND RE-ENTRANTS

RETIREMENTS
DISABLED
DISCOURAGED WORKERS

LABOR FORCE

EMPLOYED

UNEMPLOYED

TRANSFERS

UNEMPLOYED JOB SEEKER

EMPLOYERS (Jobs)

FILLED JOBS

JOB VACANCIES

DECREASED BY:

LAYOFFS

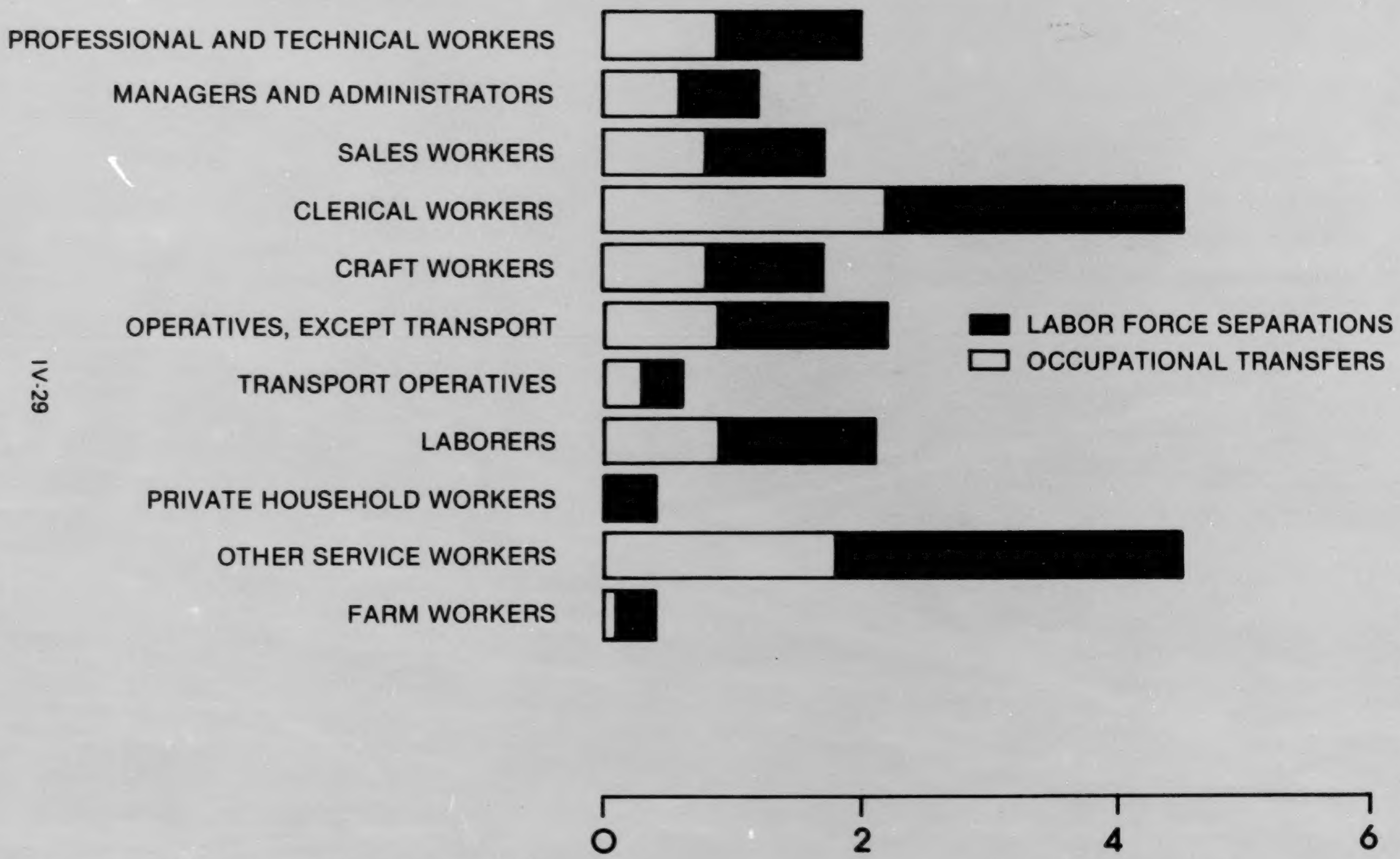
INCREASED BY:

QUITS
RETIREMENTS
DEATHS
NEW HIRES
RECALLS

IV-27

TRANSPARENCY MASTER IV.I.4

# REPLACEMENT NEEDS

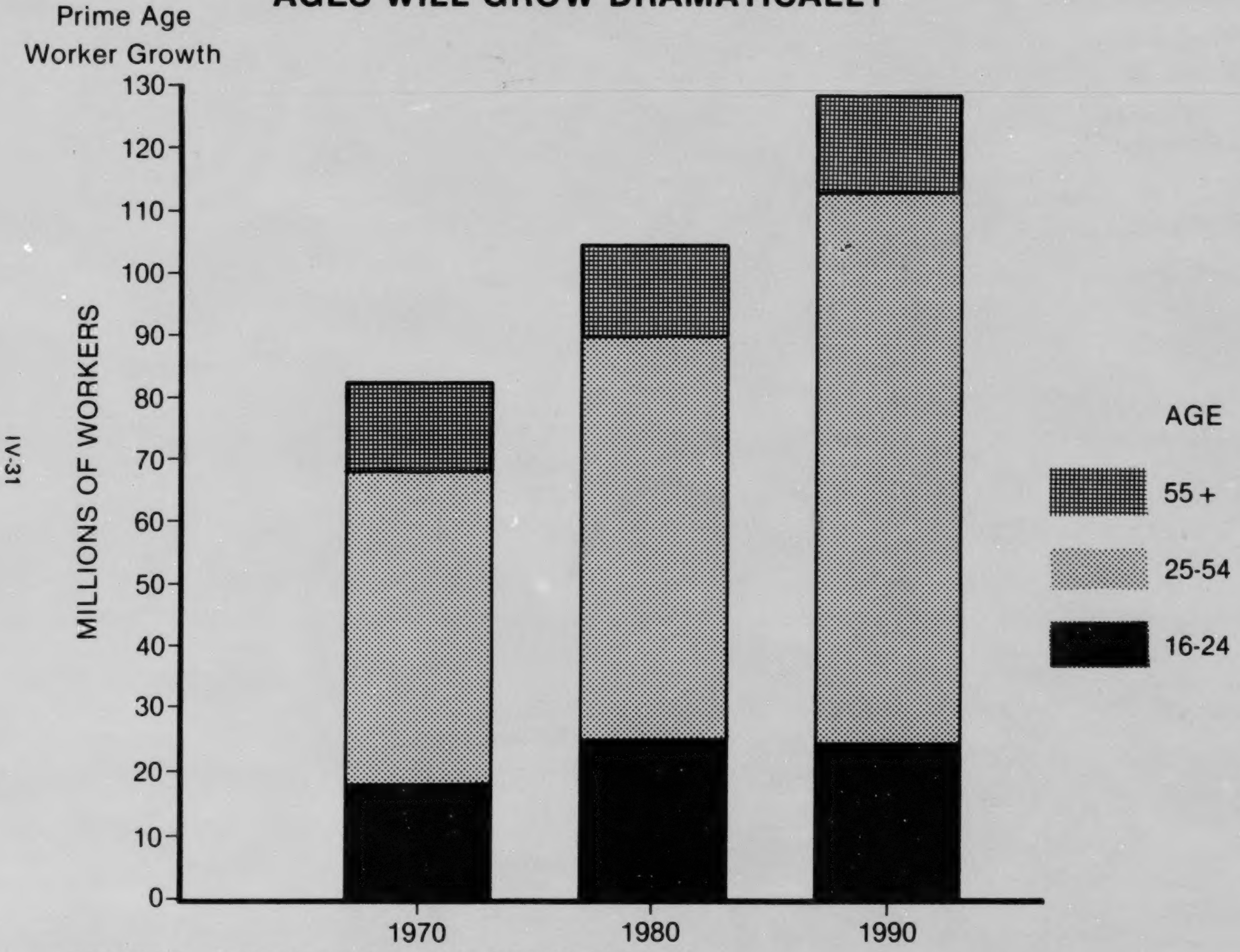


AVERAGE ANNUAL REPLACEMENT NEEDS, 1980—90 (MILLIONS)

SOURCE: BUREAU OF LABOR STATISTICS

TRANSPARENCY MASTER IV.I.5

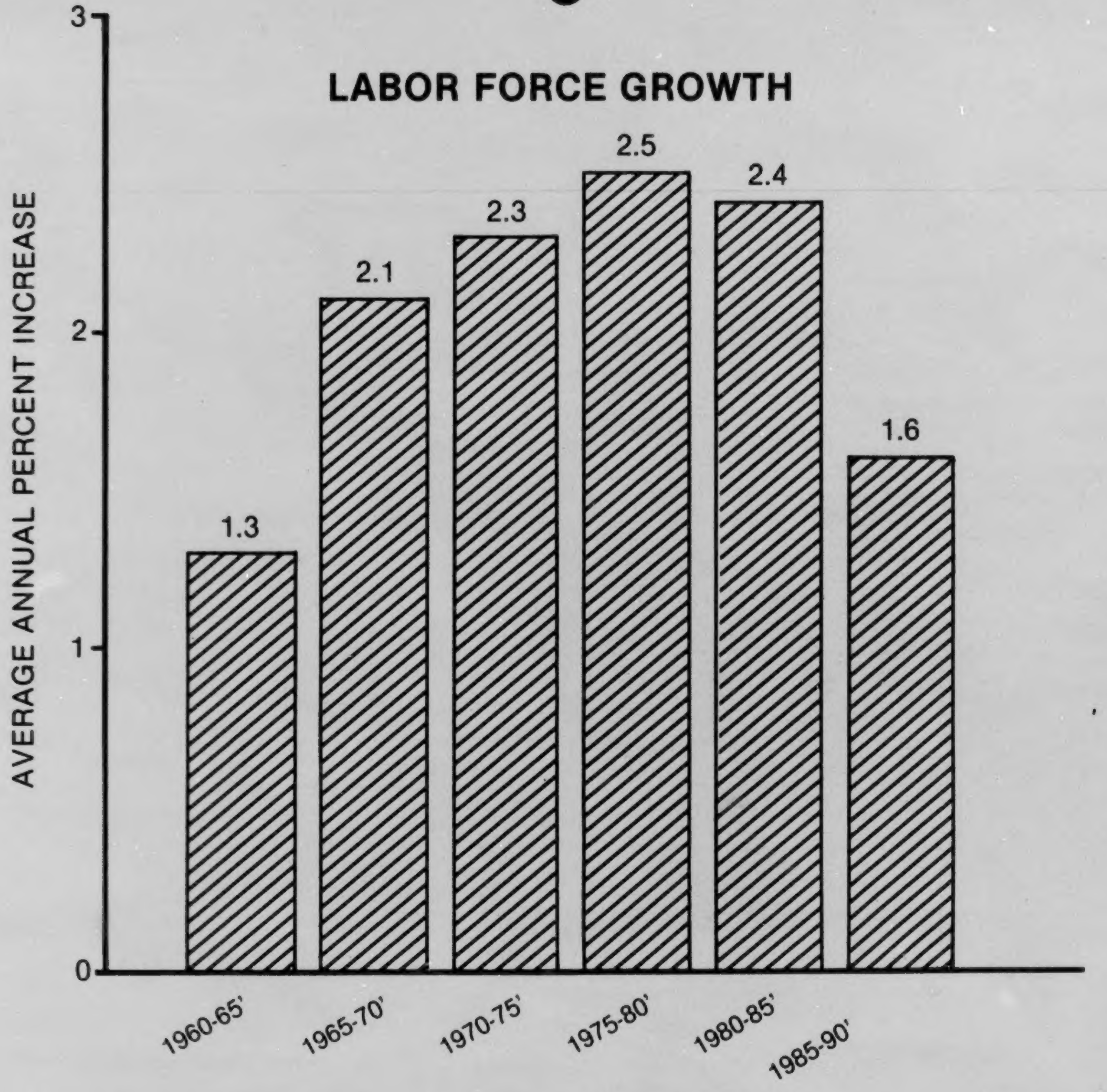
# THE NUMBER OF WORKERS IN THE PRIME WORKING AGES WILL GROW DRAMATICALLY



SOURCE: BUREAU OF LABOR STATISTICS

TRANSPARENCY MASTER IV.I.6

# LABOR FORCE GROWTH



SOURCE: BUREAU OF LABOR STATISTICS

TRANSPARENCY MASTER IV.I.7

# SUPPLY AND DEMAND

Directions: Fill in the missing information with figures that are logical

| | Total Number of Employed Machinists | Total Number of Available Machinists | Unfilled Machinist Openings |
|---|---|---|---|
| Jan. 1, 1978—Base Year—1 Plant | 280 | 100 | 0 |
| Jan. 1, 1979—New Plant Opens (Has 200 machinist openings) | 380 | 1)_____ | 100 |
| By mid-summer of 1979, there was full employment in both plants. | 480 | 0 | 0 |
| Jan. 1, 1980—Computer Assisted Manufacturing equipment installed in both plants—both plants lay-off | 2)_____ | 3)_____ | 0 |
| By mid-summer 1980, both plants reach stable employment | 380 | 100 | 0 |
| Jan. 1, 1981—Union Graduates 25 Apprentices | 380 | 4)_____ | 5)_____ |

TRANSPARENCY MASTER IV.I.8

# WORKER SUPPLY

In general, the supply of specific workers is directly linked to the:

A. pay ranges
B. educational requirements
C. demand for workers
D. type of industry

In a high-skill occupation, a shortage of workers can result from:

A. a sudden decrease in job openings by employers
B. an increase in graduates of training programs
C. traditional high wages in the occupation
D. restrictive entry into the occupation

TRANSPARENCY MASTER IV.I.9

## LEARNING EXPERIENCE II

## OCCUPATIONS AND INDUSTRIES

**KEY CONCEPTS:** An industry can be classified by the goods and/or services it produces.

An occupation can be classified by the major tasks a worker performs.

Although each industry has its own occupational composition, some occupations are found in many different industries.

**COMPETENCIES:** Workshop participants will be better able to—

1. classify industries as providers of goods or services,
2. describe an activity that infuses an example of goods-producing or service industries,
3. classify occupations according to various classification systems,
4. describe an activity that infuses into their curricula occupational classification activities,
5. explain the concept of occupational transferability, and
6. describe an activity that infuses into their curricula the idea that many occupations can be found in different industries.

**PERFORMANCE OBJECTIVES:** Workshop participants will complete a worksheet classifying industries as goods- or service-producing.

Workshop participants will classify a list of occupations according to the system used in the *OOH*.

Workshop participants will list transferability potential of selected occupations.

Workshop participants will develop an infused lesson plan that uses information in the *Occupational Outlook Handbook*.

**OVERVIEW:**

Three key concepts are combined in this learning experience because of their simplicity and interrelationship. The purpose of this learning experience is to explore (1) the process for classifying occupations and industries and (2) the way occupations are distributed within industry. As in the previous learning experiences, participants will design an infused lesson plan.

For additional information on occupational classification, refer to the handout "The Labor Market" found on page IV-13. Also, representatives from the local department of labor can provide information on industrial and occupational classification.

**INSTRUCTOR'S INFORMATION:**

| | |
|---|---|
| Time | 90 minutes |
| Workshop Resources | *Occupational Outlook Handbook* (1982-83 edition)<br>**Handout/Worksheet Masters**<br>The Labor Market—page IV-13<br>Goods and Service Industries—page IV-47<br>Model Lesson Plan—page IV-48<br>Lesson Plan Format—page IV-49<br>**Transparency Masters**<br>Codes—page IV-51<br>Goods and Services—page IV-53<br>Employment Trends—page IV-55<br>Educational Attainment of Workers—page IV-57<br>College Graduates and Jobs—page IV-59<br>Job Transferability—page IV-61 |
| Instructional Methods | Group discussion<br>Individual activities<br>Small group activities |

| Instructor's Outline | Notes |
|---|---|
| I. Introduction of Learning Experience | |
| A. Explain to participants that the purpose of this activity is to explore the classification of industries and occupations and the distribution of occupations. | |
| B. Use transparency IV.II.1 to introduce this learning experience. Ask participants to determine the correct answer to the question shown. The correct answer is "A." | Show transparency IV.II.1—"Codes"—found on page IV-51. |
| The following information can be used to answer specific questions: | |
| D.O.T.: Dating from the depression era, the D.O.T. was designed to help keep track of employment figures. It is very detailed and contains over 20,000 entries. | |
| O.E.S.: These statistics are fairly recent and are used to keep track of the occupational employment trends in industries. | |
| S.O.C.: It simply provides a coding system and nomenclature for identifying and classifying occupations. | |
| CENSUS: Classified Index of Industries and Occupations: Developed primarily to define the industrial and occupational classification systems adopted for the 1980 Census. Consistent with the S.O.C. | |
| II. Classifications of Industries | |
| A. Explain that industries are broadly classified as either goods producing or service producing. | Show transparency IV.II.2—"Goods and Services"—found on page IV-53. |
| 1. Goods producers provide a product.<br>2. Service producers provide a service.<br>3. There is a trend toward more service industries.<br>4. The movement toward service-oriented society generates more service industries. | |
| B. Indicate that S.I.C.—Standard Industrial Classification is a generalized classification of industries that categorizes them according to the major economic sectors, the primary activity, and the resulting product or service. | |

**Instructor's Outline**

C. Ask participants to complete the worksheet "Goods and Service Industries." Review the answers:

(1) service, (2) goods, (3) service, (4) service, (5) goods, (6) service, (7) service, (8) service, (9) service, (10) goods, (11) goods, (12) service, (13) service, (14) service, and (15) goods.

D. Explain that there is basically only one coding system used to classify industries—the Standard Industrial Classification Manual. Occupations are classified into industries according to—

1. the resulting goods or service,
2. the primary activity conducted in the industry, and
3. the major sector of the economy the occupation addresses (agriculture, mining, construction, manufacturing, transportation, wholesale trade, retail trade, finance, services, or public administration).

III. Classification of Occupations

A. Explain that the 1982-83 *OOH* clusters occupations according to the type of work performed, and basically reflects the S.O.C. classification structure. Briefly go through the twenty clusters found in the *OOH.*

B. Have participants classify the following occupations according to the classification system in the *OOH.*

| Occupation | Cluster |
|---|---|
| Architect | Engineer, Surveyor, Architect |
| Buyer<br>Credit Manager | Administrative and Managerial |
| Veterinarian<br>Optometrist | Health Diagnosing and Treating Practitioners |
| Truck Driver<br>Airline Pilot<br>Merchant Marine Sailor | Transportation and Material Moving Occupations |

**Notes**

Distribute worksheet—"Goods and Service Industries"—found on page IV-47.

Refer to pages vii-ix of the 1982-83 *OOH.*

List some or all of the occupations on the board or a large sheet of paper.

Mix the occupations up so that all from the same cluster are not presented consecutively.

**Instructor's Outline** | **Notes**

| Occupation | Cluster |
|---|---|
| FBI agent<br>Bartender<br>Hotel Housekeeper<br>Firefighter | Service Occupations |
| Cashier<br>Model<br>Travel Agent | Marketing and Sales Occupations |
| PR Person<br>Newscaster<br>Photographer<br>Dancer | Writers, Artists, and Entertainers |
| Auto Mechanic | Mechanics and Repairers |

C. Indicate that another way of classifying occupations is as blue-collar or white-collar. Also, a third category of gray-collar is now used by some analysts.

Refer to the handout—"The Labor Market"—found on page IV-13.

1. Blue-collar workers tend to have less formal education than white-collar workers but may be highly skilled. Examples of blue-collar workers include plumbers, factory assembly line workers, and laborers. The current trend is toward fewer blue-collar workers.

2. White-collar workers tend to have more formal education than blue-collar workers but do not always earn higher wages. Examples of white-collar workers include managers, teachers, and bank workers.

3. Gray-collar workers refer to those people who have a formal technical education, usually of two years duration. This group is growing as the nation moves into the computer age. Examples of gray-collar workers include medical technicians, computer repair people, and and jet mechanics.

4. Some workers are described as service (or support) workers because their jobs cross the boundaries of white-, blue-, or gray-collar. Examples of service workers include secretaries and nurses.

| Instructor's Outline | Notes |
|---|---|
| 5. As transparency IV.II.3 indicates, there is a trend toward more white-collar and service workers as service industries proliferate. | Show transparency IV.II.3—"Employment Trends"—found on page IV-55. |
| D. (Optional Activity) Have workshop participants list three examples for each category of workers—white-collar, blue-collar, and service. Briefly discuss these examples and compare wages and working conditions. | Have participants use the *OOH* to obtain examples. |
| E. (Optional Activity) Use transparencies IV.II.4 and IV.II.5 to illustrate the trend toward rising levels of education and the concentration of college graduates in certain occupations.<br>1. As transparency IV.II.4 shows, the percentage of the work force having four or more years of college grew from 12.9 percent in 1970 to 19.0 percent in 1980.<br>2. As transparency IV.II.5 shows, college graduates tend to be employed as professionals or managers. Explain that this trend will continue even if the number of college graduates begins to decline. | Show transparencies IV.II.4—"Educational Attainment of Workers"—and IV.II.5—"College Graduates and Jobs"—found on pages IV-57 and IV-59. |
| IV. Occupations and Skill Transferability | |
| A. Indicate that many occupational skills can be transferred from one industry to another.<br>1. Each industry has a unique *collection* of occupations.<br>2. However, a given occupation may be found in different industries. For example, secretaries do very similar tasks whether working in a manufacturing business or service industry. Similarly, electricians would do similar tasks regardless of the industry. | |
| B. List ten different industries on the chalkboard or large sheet of paper. Have participants identify occupations that are common to at least three of the ten industries. | Use the *OOH* to obtain a listing of industries.<br>List responses on chalkboard or sheet of paper. |

| Instructor's Outline | Notes |
|---|---|
| C. Ask five participants to role-play different occupations of their choosing. In some cases (for example, truck driving or cooking), participants might be able to pantomime the occupation. In other cases, the participant might have to do some verbal description. For each occupation that is depicted, have the other participants list industries where the occupation might be found. For example, truck driving could be found in manufacturing, construction, and transportation industries. | Refer participant to the occupational clusters found on page vii-ix of the 1982-83 *OOH*.<br>Also, pages 15-17 of the *OOH* describe industries. |
| D. Use transparency IV.II.6 as a basis for discussing job transferability.<br>1. The answer to question 1 on the transparency is "D" because even though pilots can be found in several industries as corporate employees, choices "A," "B," and "C" are found in far more industries.<br>2. The answer to question 2 is "C" because virtually every industry employs typists. | Show transparency IV.II.6—"Job Transferability"—found on page IV-61. |
| E. (Optional Activity) Ask each participant to list possible occupations in which the following workers could be retrained:<br>Laid-off steel worker<br>Laid-off auto worker<br>Laid-off machinist<br>Unemployed physical education teacher<br>Unemployed carpenter<br>1. Explain that during the 1980s, the issue of retraining will become more critical.<br>2. There are no right or wrong answers to the question about retraining. The following is an example of a set of possible answers:<br>Retrain as a welder<br>Retrain as a computer repairperson<br>Retrain as a tool and die person<br>Retrain as a physical therapist<br>Retrain as a wood designer | |

| Instructor's Outline | Notes |
|---|---|
| V. Transferability and the *OOH* | |
| A. Indicate that the *OOH* makes reference to occupational transferability in the following places: | |
| 1. Each occupation description in the "Employment" section and the "Related Occupations" section, includes information on transferring. | |
| 2. The "Tomorrow's Jobs" section also discusses the transferability of certain occupations. | |
| B. Have participants use the *OOH* to identify at least three occupational descriptions that make reference to transfer opportunities. Use "Librarians," described on page 138 of the 1982-83 *OOH*, as an example. | Use the 1982-83 *OOH*. |
| 1. The "Employment" statement, page 139, lists the places where librarians work and mentions their employment as audiovisual specialists. | |
| 2. The "Related Occupations" section, page 140, lists jobs requiring similar analytical and organizational skills, for which librarians might qualify. | |
| VI. Infused Activity | |
| A. Ask each participant to develop an activity that infuses into their curricula an idea presented in this learning experience. Since more than one concept is addressed, participants may want to develop more than one activity. | Participants can work individually or in small groups.<br>Use the "Lesson Plan Format" found on page IV-49.<br>Distribute "Model Lesson Plan" found on page IV-48. |
| B. (Optional Activity) Ask a few participants to share their ideas. | |
| VII. Wrap-Up | |
| A. Indicate that this learning experience was designed to provide information on classification of industries and occupations and on transferability of occupations. | |
| B. Mention that the next learning experience explores how job openings occur. | |

# GOODS AND SERVICE INDUSTRIES

**Directions:** Place an X under the appropriate heading that describes the primary industry classification of each firm or agency.

| Firm/Agency | Goods-producing Industry | Service-producing Industry |
|---|---|---|
| 1. George Washington High School | ______ | ______ |
| 2. Chrysler Motors | ______ | ______ |
| 3. Busy Bee Cleaner | ______ | ______ |
| 4. Joe's Stationery Store | ______ | ______ |
| 5. New Town Dairy | ______ | ______ |
| 6. State Education Department | ______ | ______ |
| 7. U.S. Department of Labor | ______ | ______ |
| 8. Village Realty | ______ | ______ |
| 9. New York Police Department | ______ | ______ |
| 10. Westinghouse Electric, Refrigerators Division | ______ | ______ |
| 11. Bethlehem Steel | ______ | ______ |
| 12. Ron's Resumes | ______ | ______ |
| 13. Pete's Diner | ______ | ______ |
| 14. General Hospital | ______ | ______ |
| 15. General Foods | ______ | ______ |

**Directions:** In the spaces below, write examples of goods and service industries from your own home town.

| Goods-producing | Service-producing |
|---|---|
| ______________________ | ______________________ |
| ______________________ | ______________________ |
| ______________________ | ______________________ |
| ______________________ | ______________________ |
| ______________________ | ______________________ |

# MODEL LESSON PLAN

**Title:** Job Mobiles

**Grade Level:** K-1 **Subject Area:** Art

**Lesson Goal:** The student will learn that an occupation can be classified by the major tasks a worker performs.

**Lesson Objective:** The student can identify at least one occupation associated with five different tools required by that occupation.

**Time Requirement:** Three 45 minute occupations

**Description of Activity:**

1. The teacher leads a brief class discussion on the different tools required for different jobs.
2. Each student chooses two jobs with which he/she is familiar.
3. Each student constructs a mobile of at least six parts illustrating the tools of the two jobs (magazine cutouts or freehand silhouettes may be used).
4. Mobiles should be hung in classroom.
5. A class discussion mentions all the tools and jobs that were made.

**Resources:**

**Materials:** Various art supplies, magazines

**Evaluation:** Each student can name at least three different occupations when three different tools are pointed out.

WORKSHEET

## LESSON PLAN FORMAT

**Title:**

**Grade Level:** **Subject Area:**

**Lesson Goal:**

**Lesson Objective(s):**

**Time Requirement:**

**Description of Activity:**

**Resources:**

- **Materials:**
- **People:**
- **Space/Equipment:**

**Evaluation:**

# CODES

Occupations are classified by the major tasks a worker performs. The following coding systems are in use by the federal government. Some have relatively few categories covering a broad range of occupations. Which coding system has the most detailed occupational categories?

a. DOT — Dictionary of Occupational Titles
b. OES — Occupational Employment Statistics
c. SOC — Standard Occupational Classification
d. CENSUS — Classified Index of Industries and Occupations

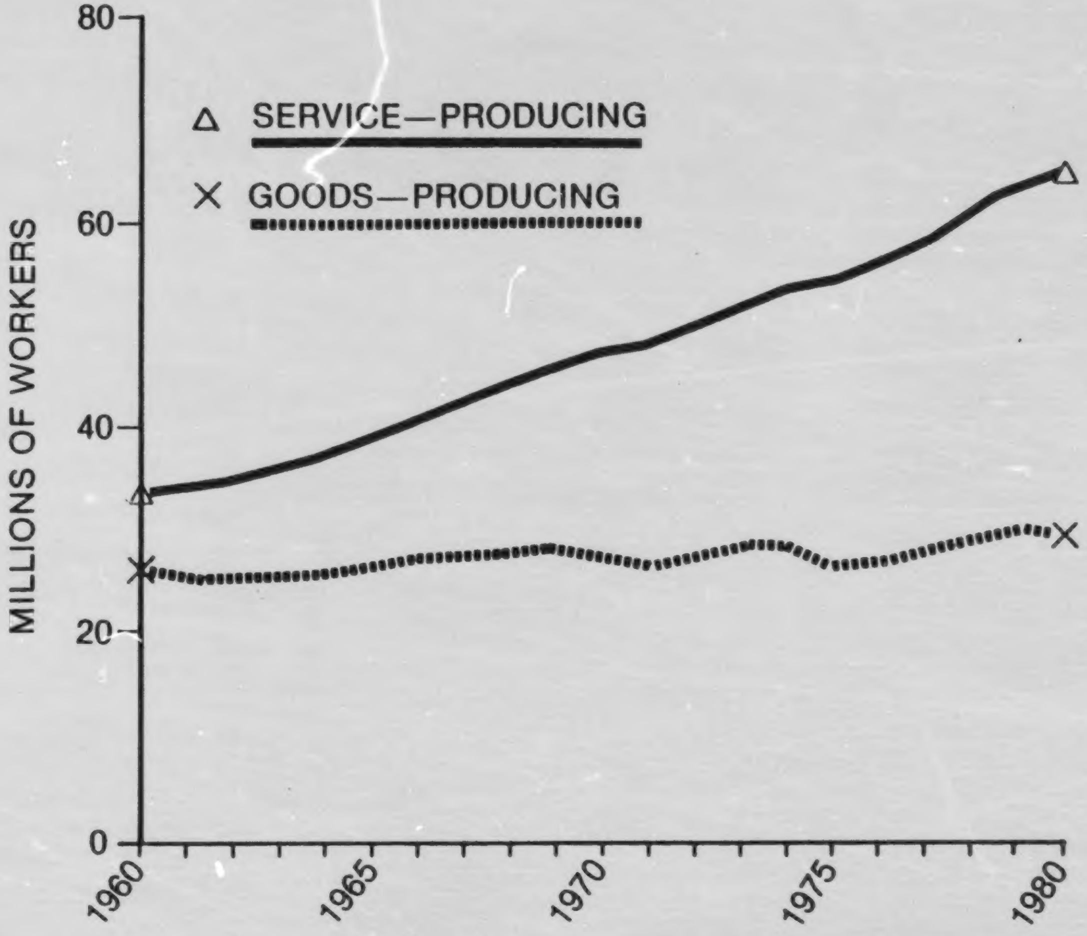
# GOODS AND SERVICES

**SERVICE—PRODUCING:**

TRANSPORTATION
AND PUBLIC UTILITIES
TRADE
FINANCE, INSURANCE,
AND REAL ESTATE
SERVICES
GOVERNMENT

**GOODS—PRODUCING:**

AGRICULTURE
MINING
CONTRACT CONSTRUCTION
MANUFACTURING

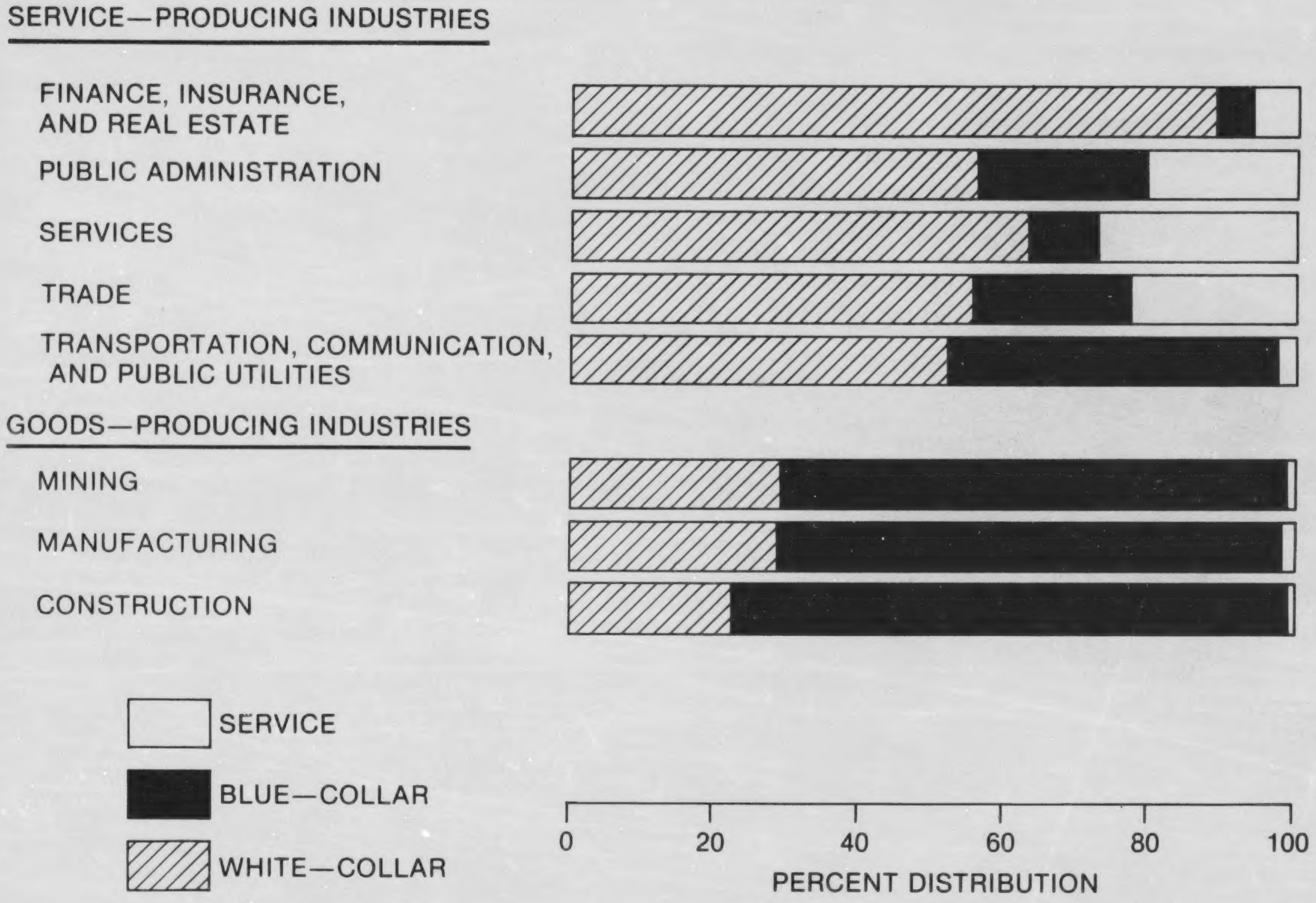


NOTE: WAGE AND SALARY WORKERS, EXCEPT FOR AGRICULTURE, WHICH
INCLUDES SELF—EMPLOYED AND UNPAID FAMILY WORKERS

SOURCE: BUREAU OF LABOR STATISTICS

TRANSPARENCY MASTER IV.II.2

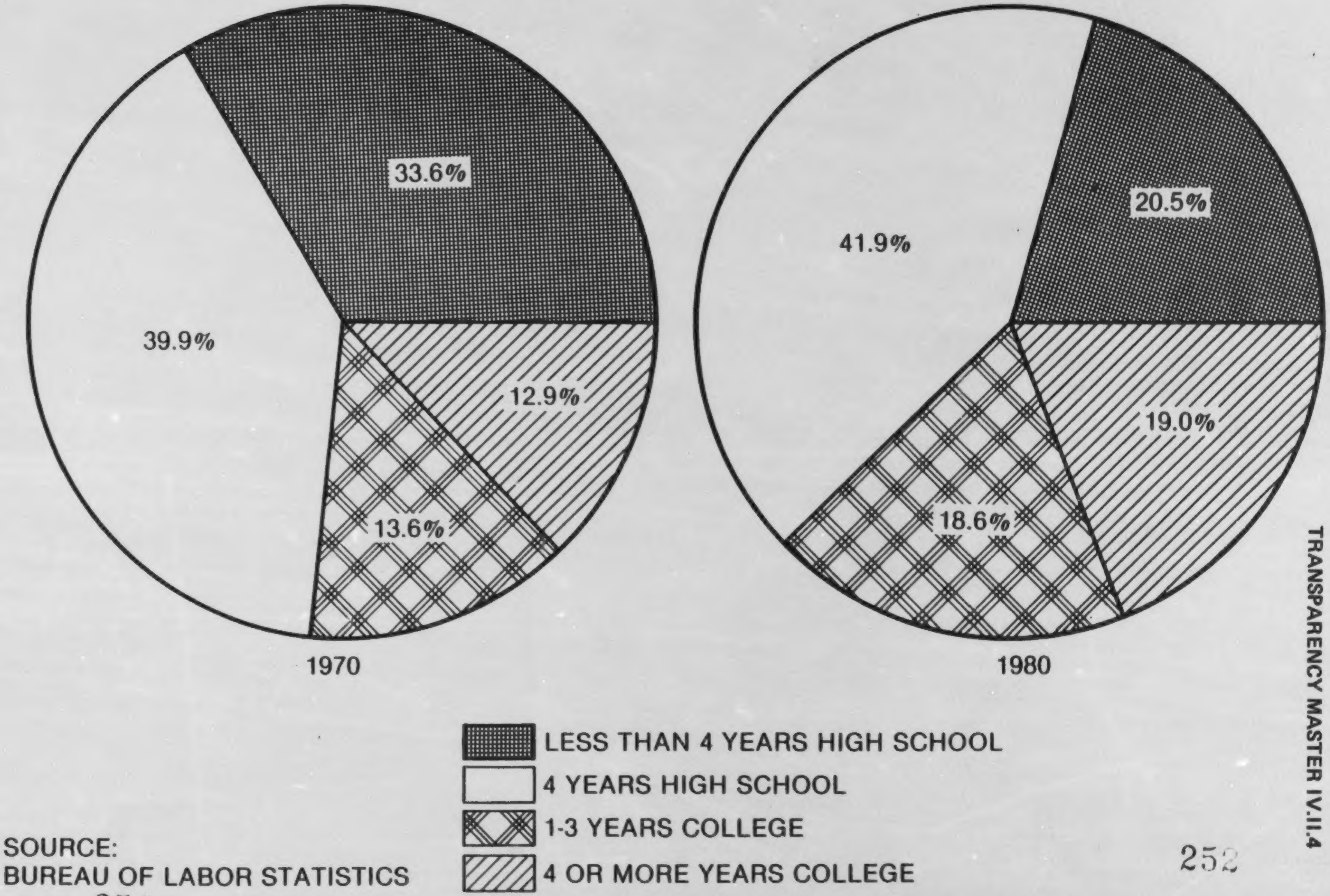
# EMPLOYMENT TRENDS



SOURCE: BUREAU OF LABOR STATISTICS

TRANSPARENCY MASTER IV.II.3

# EDUCATIONAL ATTAINMENT OF WORKERS

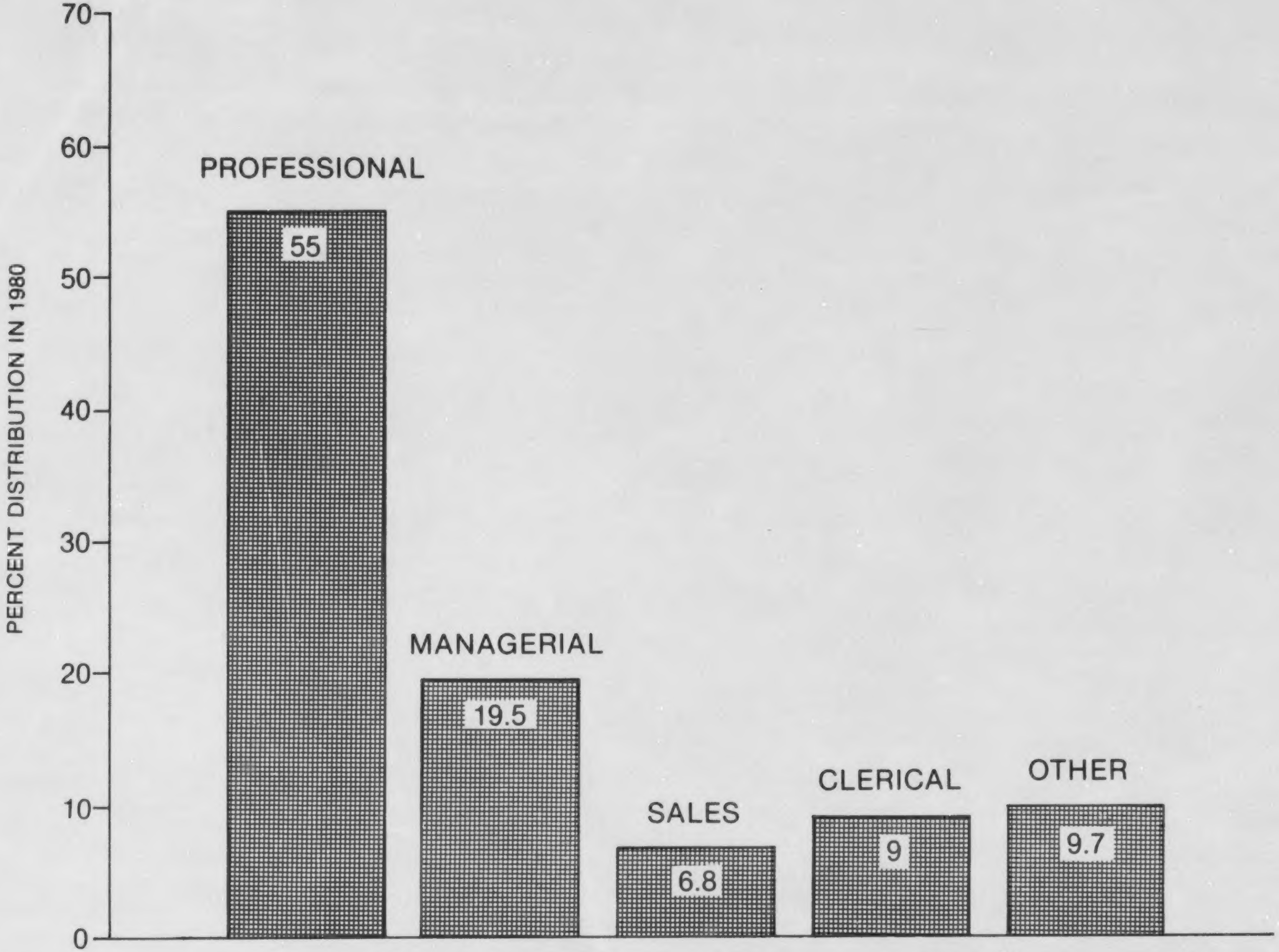


SOURCE:
BUREAU OF LABOR STATISTICS

IV-57

TRANSPARENCY MASTER IV.II.4

# COLLEGE GRADUATES AND JOBS



SOURCE: BUREAU OF LABOR STATISTICS

TRANSPARENCY MASTER IV.II.5

# JOB TRANSFERABILITY

1. Which occupation is most specific to a particular industry?
    - A. secretary
    - B. typist
    - C. machine operator
    - D. pilot

2. Which occupations would be found in the greatest number of industries?
    - A. musician
    - B. pilot
    - C. typist
    - D. machinist

TRANSPARENCY MASTER IV.II.6

## LEARNING EXPERIENCE III

## JOB OPENINGS

**KEY CONCEPT:** Despite the importance of employment growth, most job openings result from replacement needs.

**COMPETENCIES:** Workshop participants will be better able to—

1. provide examples of industries that have job openings due to (a) employment growth and (b) replacement needs and
2. describe an activity that infuses into their curricula material on reasons for a favorable outlook for an occupation.

**PERFORMANCE OBJECTIVES:** Workshop participants will classify job openings according to their cause: employment growth or replacement needs.

Workshop participants will develop an infused lesson that relates to the above concept and uses information from the *OOH.*

---

**OVERVIEW:** Although this concept is relatively simple to understand, it is important for people to realize that the source of jobs is less likely to be creation of new jobs (employment growth) than replacement of workers in existing jobs. Participants will be given time to develop their own infused lessons.

---

| | | |
|---|---|---|
| **INSTRUCTOR'S INFORMATION:** | Time | 60 minutes |
| | Workshop Resources | *Occupational Outlook Handbook* (1982-83 edition) |
| | | **Handout/Worksheet Masters**<br>Turnover Rates—page IV-71<br>Model Lesson Plan—page IV-72<br>Lesson Plan Format—page IV-73<br>Knowledge Quiz—page IV-74 |

**Transparency Masters**
Occupational Growth—page IV-77
Job Openings—page IV-79
Job Sources—page IV-81
Fastest Growing Industries, 1980-90—page IV-83
New Jobs in the 1980s—page IV-85
Declining Occupations—page IV-87

| | |
|---|---|
| Instructional Methods | Group discussion<br>Small group activity |

| Instructor's Outline | Notes |
|---|---|
| I. Introduction of Learning Experience | |
| A. Explain that the purpose of the activity is to explore the differences between growth and replacement needs in the job market. | |
| B. Use transparency IV.III.1 to introduce this learning experience through discussion of the two types of growth that lead to job openings. | Show transparency IV.III.1—"Occupational Growth"—found on page IV-77. |
| 1. The answer to question 1 on the transparency is "B" because of the boom in the entire health care industry. Participants might discuss examples of other booming industries (e.g., electronics, recreation). | |
| 2. The answer to question 2 is "A" because of the growth of information resources and their growing importance to the function of day-to-day business operations. It should be explained that these two types of growth are obviously related. | |
| II. Jobs Because of Growth | |
| A. Use transparency IV.III.2 to introduce this discussion on job openings. The answer to the question shown is "C" because openings created by worker disability are small compared to the other choices. It should be pointed out, however, that this is a form of replacement opening. The major idea of this section is that most job openings result from replacement needs. | Show transparency IV.III.2—"Job Openings"—found on page IV-79. |
| B. Explain that some jobs result from growth. It should also be mentioned that jobs caused by industry growth generally occur in booming general economy, while jobs related to occupational growth can occur anytime (the growth of medical technicians, for example, has been unaffected by the poor economy). | |
| 1. New jobs are created as a result of business growth. An example would be the growing need for systems analysts, which has resulted from the tremendous growth of the computer industry. | |
| 2. There are always some new jobs created as a result of growth in a particular occupation. Three examples, all related to the general growth of the health care industry, are radiation therapist, emergency medical technician, and dietetic technician. | |

| Instructor's Outline | Notes |
|---|---|
| C. Ask participants to provide additional examples of growth-related job openings. Examples would be recreational directors and mining engineers. | List participant responses on a chalkboard or large sheet of paper. |
| D. (Optional Activity) Conduct a role-playing activity. Ask for a volunteer to act as interviewer from a radio talk show. Other workshop participants will act as high school seniors who have chosen occupations they believe to have good growth potential. The interviewer asks the others what their occupational choices are. List all jobs chosen. Discuss the occupations from the standpoint of growth potential. | Use the *OOH* to obtain information on occupations. |
| III. Jobs Because of Labor Force Separations | |
| A. Explain that the majority of job openings are created as a result of people leaving the labor force (commonly referred to as labor force separations). | |
| 1. Two major causes of separations are death and retirement. | |
| 2. Other major causes of separations are disabilities and resignations for personal reasons. For example, individuals may leave their jobs in order to raise families. | |
| 3. To allow for reduction in staff without layoffs, openings created by separations are not always filled. This is called "attrition" and is the least painful way for employers to reduce the work force. | |
| 4. Some industries are characterized by high employee turnover rates, while others are very stable. An example of a high turnover industry is the fast-food industry. Education is an example of a stable industry with a relatively low turnover rate. Usually, high turnover occupations are both low paying and unskilled. | |
| B. Use transparency IV.III.3 to summarize the sources of job openings. The answer to the question shown is "C." This choice is correct because none of the others accounts for the majority of job openings. There should be no debate on this because this point has been made throughout the module. | Show transparency IV.III.3—"Job Sources"—found on page IV-81. |

| Instructor's Outline | Notes |
|---|---|
| C. Have participants complete the worksheet "Turnover Rates." Explain that this activity is designed to cause participants to think about what causes high or low turnover and point out that there are no right or wrong answers. | Distribute the worksheet—"Turnover Rates"—found on page IV-71. |
| 1. Have participants complete the worksheet by arriving at a logical reason for each choice. For example, teachers might have lower than average turnover because they have made a substantial investment in training, or their jobs are reasonably secure although not highly paid. One might argue, however, that teachers have high turnover because so many leave for family responsibility or better jobs. | |
| 2. Ask each participant to provide a rationale for at least one worker on the list. Others might present different reasoning, and the discussion may show that different geographic locations and/or experience backgrounds of the participants yield different rationales. | |
| D. (Optional Activity) Hometown Statistics. In this activity, workshop participants use information about their own environment to create a chart that reflects the stability of various employment sites. It is a "creative" activity in that the participants are given general guidelines and must then chart the information on their own. | |
| 1. The guidelines are— | |
| • list three hometown business establishments,<br>• list five occupations within each business, | The format of the worksheet "Turnover Rates" can be used. |
| • indicate the turnover rate (high, average, low) of each occupation (total of fifteen different occupations). | In groups whose participants come from the same location, the "home town" might be that of the participants' childhood. |
| 2. After each participant has "created" his/her chart, ask volunteers to share theirs with the group. | |
| IV. Job Openings and the *OOH* | |
| A. Indicate that in the *OOH* there are references to job needs created by replacement and/or growth. | Refer to the *OOH* during this discussion. |

| Instructor's Outline | Notes |
|---|---|
| 1. The "Tomorrow's Jobs" section addresses this concept in detail. | |
| 2. Each occupation description addresses the source of new jobs. The "Employment" and "Job Outlook" sections specifically discuss the issue of growth versus replacement for each occupation. | |
| 3. Transparency IV.III.4 lists the growth industries of the 1980s. Coal mining will be a growth industry, for example, because of the move away from oil. | Show transparency IV.III.4—"Fastest Growing Industries, 1980-90"—found on page IV-83. |
| 4. Transparency IV.III.5 shows that the source of 50 percent of new jobs is a relatively small number of occupations. | Show transparency IV.III.5—"New Jobs in the 1980s"—found on page IV-85. |
| 5. Transparency IV.III.6 shows thirteen occupations that may suffer declines during the 1980s. | Show transparency IV.III.6—"Declining Occupations"—found on page IV-87. |
| B. Have participants use the *OOH* to discover job outlook information, discussed in the preceding activity, for an occupation of their choosing. For example, the job outlook for a physical therapist is described on page 304 of the 1982-83 *OOH* as "excellent." | |
| C. Have participants classify the following job openings as being created by growth or replacement:<br>Teacher hired to cover maternity leave of another teacher (replacement)<br>Machinist hired for new third shift (growth)<br>Salesperson hired to cover new product (growth)<br>Cab driver hired because another was fired (replacement)<br>Plumber who takes over parent's business (replacement)<br>Salesperson hired to fill promotional vacancy (replacement)<br>Typist hired temporarily because of sickness of another (replacement)<br>Repairperson hired for new business (growth)<br>Nurse hired because another retired (replacement)<br>Substitute teacher hired (replacement) | This can be used as a dictation exercise. |

| Instructor's Outline | Notes |
|---|---|
| V. Job Openings and Infused Lesson | |
| A. Ask each participant to select one of his/her current lessons as a basis for writing an infused lesson plan. | Use "Lesson Plan Format" found on page IV-73.<br>Distribute "Model Lesson Plan" found on page IV-72. |
| B. Ask each participant to incorporate material on the reasons for the favorable outlook of one of the three identified occupations in an infused lesson plan. | |
| C. Ask participants to share ideas from their infused lesson plans. Discussion should include ways to infuse both the general labor market concepts and infusion techniques. | You may want to duplicate and distribute some of the plans. |
| VI. Wrap-Up | |
| A. Ask workshop participants whether they have any questions concerning this entire module. | |
| B. (Optional Activity) Administer the quiz on labor market concepts. Discussion can reinforce knowledge of the concepts in this module. Answers are—<br>(1) d, (2) d, (3) c, (4) b, (5) d, (6) c, (7) b, (8) d, (9) b, (10) d, (11) d, (12) c, (13) d, (14) c, and (15) d. | Distribute worksheet—"Knowledge Quiz"—found on page IV-74.<br>Administer the post-workshop portion of the "Competency Opinionnaire" and "Workshop Effectiveness Worksheet" found on pages IV-102 and IV-104. |

## TURNOVER RATES

**Directions:** Place an X under the appropriate heading. For example, there is usually a high turnover rate for food counter worker because of low pay and advancement opportunities.

| Occupation | Low Turnover | Average Turnover | High Turnover |
|---|---|---|---|
| Food Counter Worker | | | |
| Auto Mechanic | | | |
| Janitor | | | |
| Letter Carrier | | | |
| School Teacher | | | |
| Fire Fighter | | | |
| Short Order Cook | | | |
| Sales Clerk | | | |
| Truck Driver | | | |
| Chef | | | |
| Carpenter | | | |
| Flight Attendant | | | |
| Butcher | | | |
| Wholesale Salesperson | | | |
| Mason | | | |
| Plumber | | | |
| School Principal | | | |
| Bank Teller | | | |
| Printer | | | |
| Assistant Cook | | | |

**HANDOUT**

## MODEL LESSON PLAN

**Title:** Where Do Jobs Come From?

**Grade Level:** 4 **Subject Area:** Language Arts/Social Studies

**Lesson Goal:** The student will learn that despite the importance of employment growth, most job openings result from replacement needs.

**Lesson Objective:** The student will be able to list five reasons for employers to place job orders with the State Job Service and can classify these reasons as being caused by growth or replacement.

**Time Requirement:** 45 minutes

**Description of Activity:**

1. The teacher schedules a guest speaker from the State Job Service.
2. In a 20-25 minute presentation, the guest speaker describes the operation of the Job Service with the emphasis on the Job Ordering process. (This discussion should be kept as simple as possible.)
3. During the presentation, the speaker lists on the chalkboard various reasons for employee job orders (to fill temporary vacancy, to cover busy season, etc.) and shows the class that most are caused by the need to replace workers.
4. After the lecture, each student lists five possible reasons for job orders (either previous examples or new examples) and indicates if it was growth or replacement.
5. Each student then tells the class one of the reasons listed and whether it was replacement or growth related.

**Resources:**

**People:** State Job Service Representative

**Equipment:** Chalkboard

**Evaluation:** Each student can list five reasons for employers to place job orders with the State Job Service and can classify these reasons as caused by growth or replacement.

**Source:** *Career Education in the Elementary School*, Long Island University, 1973

WORKSHEET

## LESSON PLAN FORMAT

**Title:**

**Grade Level:** **Subject Area:**

**Lesson Goal:**

**Lesson Objective(s):**

**Time Requirement:**

**Description of Activity:**

**Resources:**

- **Materials:**
- **People:**
- **Space/Equipment:**

**Evaluation:**

WORKSHEET

## KNOWLEDGE QUIZ

1. Labor force is defined as the total number of:

    a. the population working
    b. the working age population
    c. the employed in the population
    d. employed and unemployed in the population

2. In general, the supply of workers in a specific occupation is directly linked to the:

    a. type of work
    b. pay range
    c. educational requirements
    d. demand for workers

3. The unemployment rate is defined as the:

    a. number of unemployed
    b. percent of the working age population unemployed
    c. percent of the labor force unemployed
    d. number of people who have given up looking for work

4. An example of an underemployed person is a:

    a. typist working as a secretary
    b. teacher driving a cab
    c. busboy working as a waiter
    d. salesperson who is regional manager

5. A shortage of skilled workers in an occupation can result from:

    a. a sudden decrease in job openings by employers
    b. an increase in graduates of training programs
    c. traditional high wages in the occupation
    d. restrictive entry into the occupation

6. Firms are grouped into industries by the type of goods or services produced. The coding system established by the federal government for this purpose is:

    a. S.O.C.–Standard Occupational Classification
    b. O.E.S.–Occupational Employment Statistics
    c. D.O.T.–Dictionary of Occupational Titles
    d. CENSUS–Classified Index of Industries and Occupations

7. Occupations are classified by the major tasks a worker performs. The following coding systems are in use by the federal government. Some have relatively few categories covering a broad range of occupations. Which coding system has the most detailed occupational categories?

   a. D.O.T.–Dictionary of Occupational Titles
   b. O.E.S.–Occupational Employment Statistics
   c. S.O.C.–Standard Occupational Classification
   d. CENSUS–Classified Index of Industries and Occupations

8. As compared to employment change in the goods-producing industries, service industry jobs will:

   a. decline
   b. stay the same
   c. increase slightly
   d. increase greatly

9. Which occupation is most specific to a particular industry?

   a. salesperson
   b. news reporter
   c. computer operator
   d. secretary

10. Which occupation would be found in the greatest number of industries?

    a. pilot
    b. machinist
    c. entertainer
    d. typist

11. An example of an occupation that has grown dramatically as a result of business growth is:

    a. farmer
    b. fire fighter
    c. appliance dealer
    d. electronics assembler

12. An example of an occupation that has grown dramatically as a result of the growth of its industry is:

    a. shoemaker
    b. auto mechanic
    c. inhalation therapist
    d. machinist

13. A major source of job openings is:

    a. retirement
    b. transfers
    c. promotions
    d. all of the above

14. Most new workers are hired by employers because of:

    a. corporate growth
    b. a reduction in taxes
    c. the need to replace workers
    d. a rise in corporate profits

15. Generally, the least painful way for a business to reduce its work force is:

    a. a departmental layoff
    b. relocation
    c. automation
    d. attrition

# OCCUPATIONAL GROWTH

An example of an occupation which has grown dramatically as a result of the growth of related industry growth is:

A. machinist
B. physical therapist
C. truck mechanic
D. shoe salesman

An example of an occupation which has grown dramatically as a result of general economic growth is:

A. office machine sales person
B. farmer
C. appliance dealer
D. pilot

# JOB OPENINGS

All of the following are significant sources of job openings due to replacement needs except:

A. death
B. family-raising duties
C. occupational transfers
D. retirement
E. disability

TRANSPARENCY MASTER IV.III.2

# JOB SOURCES

Most new workers are hired by employers because of:

A. corporate growth
B. a reduction in taxes
C. the need to replace workers
D. a rise in corporate profits

TRANSPARENCY MASTER IV.III.3

TRANSPARENCY MASTER IV.III.4

# FASTEST GROWING INDUSTRIES, 1980-90

| OCCUPATION | PERCENT CHANGE |
|---|---|
| COAL MINING | 65.3 |
| TRANSPORTATION EQUIPMENT, NOT ELSEWHERE CLASSIFIED | 59.7 |
| MEDICAL SERVICES, EXCEPT HOSPITALS | 58.6 |
| COMPUTERS AND PERIPHERAL EQUIPMENT | 48.3 |
| HOSPITALS | 44.3 |
| HEATING APPARATUS AND PLUMBING FIXTURES | 44.1 |
| ELECTRIC LIGHTING AND WIRING | 42.0 |
| ORDNANCE | 41.9 |
| PLASTIC PRODUCTS | 41.3 |
| AUTOMOBILE REPAIR | 39.7 |

SOURCE: BUREAU OF LABOR STATISTICS

TRANSPARENCY MASTER IV.III.5

# NEW JOBS DURING THE 80's

| OCCUPATION | GROWTH IN EMPLOYMENT 1980—1990 (IN THOUSANDS) |
|---|---|
| SECRETARIES | 700 |
| NURSES' AIDES AND ORDERLIES | 508 |
| JANITORS AND SEXTONS | 501 |
| SALES CLERKS | 479 |
| CASHIERS | 452 |
| NURSES, PROFESSIONAL | 437 |
| TRUCK DRIVERS | 415 |
| FOOD SERVICE WORKERS, FAST FOOD RESTAURANTS | 400 |
| GENERAL CLERKS, OFFICE | 377 |
| WAITERS AND WAITRESSES | 360 |
| ELEMENTARY SCHOOL TEACHERS | 251 |
| KITCHEN HELPERS | 231 |
| ACCOUNTANTS AND AUDITORS | 221 |
| HELPERS, TRADES | 212 |
| AUTOMOTIVE MECHANICS | 206 |
| BLUE-COLLAR WORKER SUPERVISORS | 206 |
| TYPISTS | 187 |
| LICENSED PRACTICAL NURSES | 185 |
| CARPENTERS | 173 |
| BOOKKEEPERS, HAND | 167 |
| GUARDS AND DOORKEEPERS | 153 |
| STOCK CLERKS, STOCKROOM AND WAREHOUSE | 142 |
| COMPUTER SYSTEMS ANALYSTS | 139 |
| STORE MANAGERS | 139 |
| PHYSICIANS, MEDICAL AND OSTEOPATHIC | 135 |
| MAINTENANCE REPAIRERS, GENERAL UTILITY | 134 |
| COMPUTER OPERATORS | 132 |
| CHILD CARE WORKERS, EXCEPT PRIVATE HOUSEHOLD | 125 |
| WELDERS AND FLAMECUTTERS | 123 |
| STOCK CLERKS, SALES FLOOR | 120 |
| ELECTRICAL ENGINEERS | 115 |
| COMPUTER PROGRAMMERS | 112 |
| ELECTRICIANS | 109 |
| BANK TELLERS | 108 |
| ELECTRICAL AND ELECTRONIC TECHNICIANS | 107 |
| LAWYERS | 107 |
| SALES AGENTS AND REPRESENTATIVES, REAL ESTATE | 102 |

SOURCE: BUREAU OF LABOR STATISTICS

TRANSPARENCY MASTER IV.III.6

# DECLINING OCCUPATIONS

| OCCUPATION | PERCENT CHANGE IN EMPLOYMENT, 1980-90 | EMPLOYMENT, 1980 (IN THOUSANDS) |
|---|---|---|
| FARM LABORERS | -20 | 1,175 |
| GRADUATE ASSISTANTS | -18 | 132 |
| FARMERS | -17 | 1,447 |
| SHOEMAKING MACHINE OPERATORS | -17 | 65 |
| SECONDARY SCHOOL TEACHERS | -14 | 1,237 |
| COLLEGE AND UNIVERSITY TEACHERS | -12 | 457 |
| COMPOSITORS AND TYPESETTERS | -10 | 128 |
| MAIDS AND SERVANTS, PRIVATE HOUSEHOLD | - 6 | 478 |
| CENTRAL OFFICE REPAIRERS | - 6 | 51 |
| TICKET AGENTS | - 4 | 53 |
| TAXI DRIVERS | - 3 | 71 |
| CLERGY | - 3 | 296 |
| POSTAL CLERKS | - 2 | 316 |

SOURCE: BUREAU OF LABOR STATISTICS

## RELATED ACTIVITIES

The activities described below have been conducted in a school situation. They were identified through an extensive literature review and/or interviews with school personnel. Some of them were field tested prior to inclusion in the training package. These are starred, and detailed information is provided regarding them.

**Concept:** The labor market is the interaction of people competing for jobs (occupations) and employers (industries) competing for workers. These workers and job-seekers constitute the labor force. The supply of workers and the demand of job openings affect each other.

**Title:** Social Changes **Grade Level:** Secondary **Subject Area:** Social Studies

**Learning Activity:** Class discusses how social changes influence the need of different occupations.

**Title:** Occupations and the Economy **Grade Level:** Secondary **Subject Area:** Social Studies

**Learning Activity:** Students study the relationship of occupations and the economic condition.

**Concept:** An industry can be classified by the goods and services it produces.

***Title:** Kinds of Work **Grade Level:** 1 **Subject Area:** Language Arts

**Instructional Objective:** The students will be able to categorize ten industries as either goods producing or service producing.

**Time Requirement:** 45 minutes

**Materials:** Two boxes—one labeled goods, the other services; 30 precut magazine pictures of various industries (other sources of pictures may be used)

**Learning Activity:**

1. Through class discussions, the teacher presents the concept that some industries produce goods while others produce services.
2. The teacher writes the two categories on the board and with the help of the class, lists examples of both types.
3. The class members sort pictures into service and goods industries and place them into the appropriate box.

**Source:** *Career Development Guide*, Oshkosh Area Public Schools, 2155 Eagle Street, Oshkosh, WI 54901, 1973.

**Title:** Goods - Services **Grade Level:** 2 **Subject Area:** Language Arts

**Instructional Objective:** The students will correctly classify classroom activities as either goods or services producing

**Time Requirement:** 45 minutes

**Learning Activity:**

1. The teacher conducts a brief discussion on the difference between goods and services.
2. The teacher presents list of twenty classroom activities (e.g., creating artwork, cleaning chalkboard).
3. The students classify the classroom activities as goods or services.

**Source:** *Career Development Guide, Grades K-2*, Oshkosh Area Public Schools, WI, 1973.

***Title:** Farmers **Grade Level:** 3 **Subject Area:** Social Studies

**Instructional Objective:** The students will be able to identify five different farming items.

**Time Requirement:** Two 30-minute sessions

**Materials:** Pictures of farms and farm machinery, toy farm models, assorted art supplies

**Learning Activity:**

1. Teacher leads class discussion on the different things a farmer does.
2. Students pick out five pictures and/or toy models of farm implements and draw a picture in which all are shown in use.
3. (Optional) Students make clay or paper mache models of their favorite farm-related item (animal or machine).
4. (Optional) Class takes field trip to local farm.

**Source:** *Elementary Career Education Handbook*, Des Moines Schools, IA.

**Title:** Publications **Grade Level:** Elementary **Subject Area:** Language Arts

**Learning Activity:** Students study occupations associated with the publications industry.

**Title:** Service and Goods Industries **Grade Level:** Secondary **Subject Area:** Language Arts

**Learning Activity:** Class debates the rewards and challenges of service-related and goods-related industries.

**Title:** Products and Services **Grade Level:** Secondary **Subject Area:** Language Arts and Social Studies

**Learning Activity:** Students write manufacturer or retail stores to learn about products and services.

**Title:** Marketing and Distribution **Grade Level:** Secondary **Subject Area:** Social Studies

**Learning Activity:** Students study the marketing and distribution of goods.

**Title:** Service Occupations **Grade Level:** Secondary **Subject Area:** English, Art

**Learning Activity:** Students discuss and research service occupations and then develop posters depicting these occupations.

**Title:** Goods and Services **Grade Level:** Secondary **Subject Area:** Social Studies

**Learning Activity:** Guest speakers talk about goods and services occupations.

**Concept:** An occupation can be classified by the major tasks a worker performs.

***Title:** Occupational Awareness **Grade Level:** K-1 **Subject Area:** Reading/Art

**Instructional Objective:** The students will be able to list five different occupations.

**Time Requirement:** Three to four 30-minute sessions **Materials:** Coffee cans and paper

**Learning Activity:**

1. Students cover coffee cans with paper and print the names of different occupations on each.
2. Students draw, color, and cut out pictures of tools and clothing related to specific jobs.
3. They then place the items in proper cans.
4. When all cans are full, the class discusses the occupations.
5. (Optional) Parents or other resource people discuss their specific occupations.

**Source:** Watertown Public Schools, E. Ellis, 1980. Adapted from *Career Development, Grades K-2*, Oshkosh Area Public Schools, Oshkosh, WI, 1973.

**Title:** Health-oriented Careers **Grade Level:** K-2 **Subject Area:** Health

**Instructional Objective:** Students will be able to verbally name at least five careers related to the health cluster.

**Learning Activity:** Teacher shows films or has speakers speak about health-related careers to include nurse's aides, doctors, dentists, and dentist assistants. Students draw or bring in pictures of a variety of health-related careers for a bulletin board collage. Class discusses the interdependence of one career on the other and the dependence of the public on these careers. (Optional) The class takes a field trip to a clinic or hospital.

**Source:** *Career Education Curriculum Guide*, Indiana State Department of Public Instruction, Indianapolis, IN, 1973.

**Title:** Grocery Store Workers **Grade Level:** K-2 **Subject Area:** Math

**Instructional Objective:** Students will be able to state at least five jobs involved in a grocery store operation, perform a task in a simulated grocery store and use computation skills (change making) in buying and selling activities.

**Learning Activity:** Class discusses jobs involved in a grocery store; sets up a classroom grocery store using boxes, cans, etc. brought from home; makes paper money to be used in the store; and students assume different roles in the store.

**Source:** *Career Education Curriculum Guide*, Indiana State Department of Public Instruction, 1973.

***Title:** School Jobs **Grade Level:** 2 **Subject Area:** Social Studies

**Instructional Objective:** The students will be able to list the characteristics related to five school-related occupations.

**Time Requirement:** Two 45-minute sessions

**Learning Activity:**

1. The class tours the school building and observes at least five different occupations—lunch worker, secretary, principal, etc.
2. Students list characteristic they noted for each job and the teacher lists these on board.

**Source:** *Career Education in the Elementary School: An Infused Approach*, Long Island University, C.W. Post Center, Hempstead, NY 11550, 1973.

***Title:** Occupational Awareness **Grade Level:** 3 **Subject Area:** Art

**Instructional Objective:** The students will be able to list five occupations involved with the preparation of their lunches.

**Time Requirement:** Two 30-minute sessions **Materials:** Milk carton

**Learning Activity:**

1. The teacher cuts out the shape of a lunch pail and pastes it on an empty milk carton.
2. Students cut out and color disks lettered from A to Z.
3. During a class discussion, teacher directs students to think of different jobs related to food preparation.
4. Each student writes at least two jobs on the disks with the corresponding initial letter.
5. Students put their disks into the lunch pail.
6. (Optional) Parents or other resource people discuss their specific occupations.

**Source:** Watertown Public Schools, E. Ellis, 1980. Adapted from *Career Education Resource Book*, E. Ellis. Watertown Public Schools, Watertown, NY 13601, 1980.

**Title:** Radio and TV **Grade Level:** 3-5 **Subject Area:** Language Arts

**Instructional Objective:** Students will be able to name four jobs involved in a radio or TV show and the equipment needed to produce the show.

**Learning Activity:** Class takes a field trip to radio or TV station, role-plays careers in radio and TV using audio-visual equipment, creates a TV show and a TV commercial, and makes a TV guide showing the variety of programs.

**Source:** *Career Education Curriculum Guide*, Indiana State Department of Public Instruction, 1973.

**Title:** A Play Production **Grade Level:** 3-5 **Subject Area:** Language Arts

**Instructional Objective:** Students will be able to identify careers pertaining to acting.

**Learning Activity:** Class discusses acting and qualifications needed to be an actor. They select a play adaptable to class situations, list all careers involved in producing a play, select students for each part and assign tasks. The class makes props, costumes and learns parts. Resources needed include drama and music instructors, sewing machine, costume materials, and record and tape players. The class performs the play before an audience.

**Source:** *Career Education Curriculum Guide*, Indiana State Department of Public Instruction, 1973.

**Title:** Newspaper Careers **Grade Level:** 3-5 **Subject Area:** Language Arts

**Instructional Objective:** Students will be able to name three different jobs at a newspaper, identify headlines, comics, news stories, news pictures, society news, sports, and radio and TV guide portions of a newspaper.

**Materials:** Newspapers

**Learning Activity:** Class visits a newspaper office. Each student produces a comic strip, writes fictitious news stories, and develops headlines, and the class produces a mini-newspaper about happenings in their own room to send home.

**Source:** *Career Education Curriculum Guide*, Indiana State Department of Public Instruction, 1973.

**Title:** How We Travel–Railroads **Grade Level:** 3-5 **Subject Area:** Social Studies

**Instructional Objective:** Students will be able to name and describe the job functions of four people associated with the railroad industry, along with itemizing three reasons for the declining use of local railroad stations.

**Materials:** Milk cartons, travel pictures, pictures of railroads and trains, and filmstrips related to railroads and trains.

**Learning Activity:** The teacher displays pictures of various means of transportation and reads stories and poems about the railroad industry. Other activities could include tours of local train stations, setting up model train terminals, developing bulletin board displays, and making trains out of milk cartons.

**Source:** *Career Education Curriculum Guide*, Indiana State Department of Public Instruction, 1973.

***Title:** A Vacation Trip **Grade Level:** 4 **Subject Area:** Social Studies

**Instructional Objective:** The students will be able to describe at least three occupations in the tourism industry.

**Time Requirement:** 45 minutes **Materials:** Construction paper

**Learning Activity:**

1. Class plans a vacation trip to Hawaii or somewhere else.
2. Class lists the different people involved (occupations) in making the vacation pleasant.
3. Students make pieces of luggage with careers involved printed on the sides of the luggage.

**Source:** *Career Development*, Texarkana.

***Title:** Job Characteristics **Grade Level:** 5 **Subject Area:** English

**Instructional Objective:** The students will be able to describe characteristics related to three occupations.

**Time Requirement:** Several days

**Learning Activity:**

1. Students use the *Occupational Outlook Handbook* to compile a list of three occupations. They then compare the characteristics of selected occupations (e.g., wages earned, preparation necessary, etc.).
2. Some students interview persons from each of the three selected careers and share their findings with the class.
3. Some students interview older persons about obsolete careers such as the blacksmith, iceman, and compare them with present day careers.

**Source:** *Career Education*, Hazard Schools, KY, 1973.

***Title:** Career Awareness **Grade Level:** 6 **Subject Area:** English

**Instructional Objective:** The students will be able to classify jobs into the appropriate occupational clusters.

**Time Requirement:** 60 minutes **Materials:** Job classification sheet (teacher developed)

**Learning Activity:**

1. The teacher leads a class discussion on occupational clusters.
2. Teach develops a job classification sheet by listing various occupations on one side of a sheet of paper and occupational clusters on the other side.
3. Students match occupations and clusters.

**Source:** *Career Education in Schalmont*, Schalmont Central Schools, 401 Duanesburg, Schenectady, NY 12306, 1980.

***Title:** Occupations **Grade Level:** 7 **Subject Area:** Reading/Language Arts

**Instructional Objective:** The students will be able to describe a specific occupation.

**Time Requirement:** 45 minutes

**Learning Activity:**

1. Students read a story about a certain occupation. (The teacher may record the reading.)
2. The class does research on a particular occupation and compiles information.
3. Each student presents a two-minute oral report on the findings.

**Source:** *Career Development*, Texarkana.

**Title:** Printing Occupations **Grade Level:** 11-12 **Subject Area:** Industrial Arts

**Instructional Objective:** Students will be able to list common occupations in the printing field and describe those available in their community.

**Learning Activity:** Class completes group and individual projects dealing with various types of printing occupations. They take a field trip to a local printing firm.

**Source:** *Career Education Curriculum Guide*, Indiana State Department of Public Instruction, 1973.

**Title:** Vocational Interviews **Grade Level:** Elementary **Subject Area:** Social Studies

**Learning Activity:** Students interview parents and other adults about the nature of their jobs and their attitudes toward them.

**Title:** Fill-in the Blank **Grade Level:** Elementary **Subject Area:** Language Arts

**Learning Activity:** Students fill in the blanks in sentences with the name of a specific worker.

**Title:** Cereal Spell **Grade Level:** Elementary **Subject Area:** Language Arts

**Learning Activity:** Students spell out names of occupations with alphabet cereal.

**Title:** Career Poems **Grade Level:** Elementary **Subject Area:** Language Arts

**Learning Activity:** Students write poems on various occupations.

**Title:** Musical Instruments **Grade Level:** Elementary **Subject Area:** Art

**Learning Activity:** Students make musical instruments to understand that making instruments is a music-related occupation.

**Title:** Code Break **Grade Level:** Elementary **Subject Area:** Math

**Learning Activity:** Students complete a worksheet in which they complete mathematic functions and break a code to discover the name of an occupation.

**Title:** Working Sounds **Grade Level:** Elementary **Subject Area:** Social Studies

**Learning Activity:** Students identify occupations by listening to associated sounds.

**Title:** Movements of Workers **Grade Level:** Elementary **Subject Area:** Physical Education

**Learning Activity:** Students divide into teams and demonstrate the movements different workers make (such as fire fighter, construction worker). Each team guesses what the other is doing.

**Title:** Vocabulary **Grade Level:** Elementary **Subject Area:** Language Arts

**Learning Activity:** Students learn vocabulary words that relate to specific occupations.

**Title:** Workers in Readers **Grade Level:** Elementary **Subject Area:** Language Arts

**Learning Activity:** Students review their reading books to identify workers, and the teacher briefly discusses the related careers.

**Title:** Cluster-a-Month Club **Grade Level:** Elementary **Subject Area:** General

**Learning Activity:** Teachers discuss one occupational area each month.

**Title:** CARE (Career Analysis, Review and Exploration) **Grade Level:** Elementary **Subject Area:** General

**Learning Activity:** Games and activities (including career totems, career root word, job cluster bingo game, and in-and-out careers) infuse occupational information into the curriculum.

**Title:** Yellow Pages **Grade Level:** Elementary **Subject Area:** Art

**Learning Activity:** Students list from the telephone yellow pages occupations that interest them and develop posters on their favorite.

**Title:** Puppet Show **Grade Level:** Elementary **Subject Area:** Language Arts

**Learning Activity:** Students put on puppet shows in which one puppet interviews another about an occupation.

**Title:** Science Bulletin Board **Grade Level:** Secondary **Subject Area:** Science

**Learning Activity:** Class makes bulletin boards on science occupations after studying the *Occupational Outlook Handbook*.

**Title:** Forest Occupations **Grade Level:** Secondary **Subject Area:** Science

**Learning Activity:** Class visits a state or national forest and discusses careers related to the forest.

**Title:** Music Occupations **Grade Level:** Secondary **Subject Area:** Music

**Learning Activity:** Students research musical careers.

**Title:** Art Careers **Grade Level:** Secondary **Subject Area:** Art

**Learning Activity:** Students research art-related careers.

**Concept:** Although each industry has its own occupational composition, some occupations, are found in many different industries.

**Title:** Self-Sufficient Society **Grade Level:** Secondary **Subject Area:** English

**Learning Activity:** Students create a self-sufficient society and write about the careers in that society.

**Concept:** Despite the importance of employment growth, most job openings result from replacement needs.

**Title:** Job Opportunities **Grade Level:** Secondary **Subject Area:** Social Studies

**Learning Activity:** Class discusses factors that stimulate or retard job opportunities.

**Title:** Want Ads **Grade Level:** Secondary **Subject Area:** English

**Learning Activity:** Students study want ads to identify local jobs available in their interest areas.

**Title:** Job Bank **Grade Level:** Secondary **Subject Area:** English

**Learning Activity:** Class develops a list of resources for job opportunities.

**Concept:** All the previous concepts.

**Title:** Job Word Scrambles **Grade Level:** Elementary **Subject Area:** Language Arts

**Learning Activity:** Words related to occupations, industry, and the labor markets are scrambled and students locate the appropriate words.

**Title:** Career Crossword Puzzle **Grade Level:** Elementary **Subject Area:** Language Arts

**Learning Activity:** Teachers develop crossword puzzles that use words related to labor market concepts.

**Title:** Matching Games **Grade Level:** Elementary **Subject Area:** Language Arts

**Learning Activity:** Teachers develop definition and word matching activity with words related to the labor market. A variation is to match jobs with work settings.

**Title:** Worker Role Play **Grade Level:** Elementary **Subject Area:** Language Arts

**Learning Activity:** Students role play workers in different industries.

## EVALUATION TECHNIQUES

Prior to the workshop, the instructor should administer the Competency Opinionnaire (pre-workshop) to determine how competent the participants think they are in the topics to be taught. The Opinionnaire (post-workshop) is to be administered again at the end of the workshop to identify the level of competency growth. The instructor also should make specific observations during the workshop activities to measure attainment of the performance objectives. An additional instrument is designed to obtain data on the effectiveness of the workshop techniques.

The following questionnaires relate to this module. When more than one module is being taught, the instructor can develop a comprehensive pre-workshop and post-workshop competency opinionnaire that addresses all of the modules.

## ASSESSING PARTICIPANTS' MASTERY OF PERFORMANCE OBJECTIVES

The instructor's outline suggests activities that require written or verbal responses. The following list of performance indicators will assist you in assessing the quality of the participants' work.

**Module Title:** Understanding the Labor Market

**Module:** IV

| Major Activities | Performance Indicators |
|---|---|
| Learning Experience I | |
| 1. Classifying workers according to their level of employment | 1. Were participants able to correctly classify the majority of workers? |
| 2. Determining a hypothetical supply and demand of machinists | 1. Did participants understand the logic applied to determining supply and demand? |
| 3. Charting a wage history | 1. Were participants able to correctly complete the chart? |
| 4. Completing worksheet titled "Labor Market" | 1. Were participants able to answer at least 70 percent of the questions correctly? |
| 5. Locating references in the *OOH* | 1. Were participants able to locate supply and demand information for at least three occupations? |
| 6. Developing an infused lesson | 1. Were participants able to follow the infusion process?<br>2. Did the activities relate to the concept? |
| Learning Experience II | |
| 1. Completing worksheet on goods and services | 1. Were participants able to identify correctly at least ten of the industries? |
| 2. Classifying occupations according to the classification system in the *OOH* | 1. Were participants able to classify correctly the majority of the occupations? |
| 3. Identifying occupations that can transfer from one industry to another | 1. Were participants able to identify occupations that are common to three out of ten industries? |

| Major Activities | Performance Indicators |
|---|---|
| Learning Experience II | |
| 4. Role playing | 1. Were participants able to classify occupations into correct industries? |
| 5. Locating references in the *OOH* to transferability opportunities | 1. Were participants able to identify at least three occupations that have transferability opportunities? |
| 6. Developing an infused lesson | 1. Were participants able to follow the infusion process? |
| | 2. Did the activities relate to the concept? |
| Learning Experience III | |
| 1. Discussing growth-related job openings | 1. Were participants able to provide examples of growth-related job openings? |
| 2. Completing "Turnover Rates" worksheet | 1. Were participants able to understand what causes turnover rates? |
| 3. Identifying occupations with favorable job outlooks | 1. Were participants able to identify at least three occupations that have favorable job outlooks? |
| 4. Classifying causes of job openings | 1. Were participants able to classify correctly the causes of the majority of job openings? |
| 5. Developing an infused lesson | 1. Were participants able to follow the infusion process? |
| | 2. Did the activities relate to the concept? |

## COMPETENCY OPINIONNAIRE

**Directions:** For each statement that follows, assess your present competency. For each competency statement, circle one letter.

---

### YOUR COMPETENCE

---

Assess your present knowledge or skill in terms of this competency statement:

---

a. Exceptionally competent: My capabilities are developed sufficiently to teach this competency to other people.

b. Very competent: I possess most of the requirements but can't teach them to other people.

c. Minimally competent: I have few requirements for this competency.

d. Not competent: I cannot perform this competency.

| COMPETENCY STATEMENTS (PRE-WORKSHOP) | COMPETENCE (circle one) | | | |
|---|---|---|---|---|
| 1. Explain the idea of supply and demand as it relates to the labor market. | a | b | c | d |
| 2. Describe an activity that infuses into their curriculum the concept of the labor market. | a | b | c | d |
| 3. Classify industries as providers of goods and services. | a | b | c | d |
| 4. Describe an activity that infuses an example of goods-producing or service industries. | a | b | c | d |
| 5. Classify occupations according to various classification systems. | a | b | c | d |
| 6. Describe an activity that infuses into their curriculum occupational classification activities. | a | b | c | d |
| 7. Explain the concept of occupational transferability. | a | b | c | d |
| 8. Describe an activity that infuses the idea that many occupations can be found in different industries. | a | b | c | d |

| COMPETENCY STATEMENTS (PRE-WORKSHOP) | COMPETENCE (circle one) |
|---|---|
| 9. Provide examples of industries that have job opening due to (a) employment growth and (b) replacement needs. | a b c d |
| 10. Describe an activity that infuses reasons for a favorable outlook of an occupation. | a b c d |

| COMPETENCY STATEMENTS (POST-WORKSHOP) | COMPETENCE (circle one) |
|---|---|
| 1. Explain the idea of supply and demand as it relates to the labor market. | a b c d |
| 2. Describe an activity that infuses into their curriculum the concept of the labor market. | a b c d |
| 3. Classify industries as providers of goods and services. | a b c d |
| 4. Describe an activity that infuses an example of goods-producing or service industries. | a b c d |
| 5. Classify occupations according to various classification systems. | a b c d |
| 6. Describe an activity that infuses into their curriculum occupational classification activities. | a b c d |
| 7. Explain the concept of occupational transferability. | a b c d |
| 8. Describe an activity that infuses the idea that many occupations can be found in different industries. | a b c d |
| 9. Provide examples of industries that have job opening due to (a) employment growth and (b) replacement needs. | a b c d |
| 10. Describe an activity that infuses reasons for a favorable outlook of an occupation. | a b c d |

## WORKSHOP EFFECTIVENESS–MODULE IV

NAME (Optional)____________________ TITLE____________________

INSTITUTION________________________________________

ADDRESS____________________________ TELEPHONE________________

1. To what extent were the materials, processes, and organizational aspects of the module successfully used in the presentation and delivery of the module. For those materials, processes, or organizational aspects that you marked as "unsuccessful" or "slightly successful," provide brief comments as to how they might be improved.

| **Success** | | | | **Materials/Processes** | **Comments** |
|---|---|---|---|---|---|
| **Unsuccessful** | **Slightly** | **Moderately** | **Very Successful** | | |
| | | | | **Materials** | |
| 1 | 2 | 3 | 4 | Handouts/Worksheets<br>Transparencies | |
| | | | | **Processes** | |
| 1 | 2 | 3 | 4 | Lecture Presentations | |
| 1 | 2 | 3 | 4 | Large Group Discussions | |
| 1 | 2 | 3 | 4 | Small Group Sessions | |
| | | | | **Organizational Aspects** | |
| 1 | 2 | 3 | 4 | Module Organization in Terms of the Logical Flow of Ideas | |
| 1 | 2 | 3 | 4 | Important Concepts Reinforced | |
| 1 | 2 | 3 | 4 | The Mix of Activities Helpful in Maintaining Interest | |

2. Indicate those aspects of the module that you liked most and those that you liked least.

| Liked Most | Comments |
|---|---|

| Liked Least | Comments |
|---|---|

3. SUGGESTIONS: Please provide suggestions or comments that you have for improving the workshop, workshop materials, and so on.

## RESOURCES

The materials listed below provide additional information on the labor market.

*Labor Market Analysis: A Review and Analysis of Manpower Research and Development*. Trevor Bain. Manpower Administration (DOL), Office of Research and Development, Washington, D.C., 1977.

Presenting an overview of labor markets and manpower forecasting, this report traces the operation of the labor market from job search to placement and promotion. Specifically, the seven chapters deal with such items as: differing labor markets; the search for work (techniques and programs); labor market information (intermediaries, sources, improvement efforts); selection and entry (formal, informal, screening, programs); internal labor markets (theory, promotion, discrimination, job redesign); and mobility (demonstration projects and agricultural migration). In addition, this report presents a literature bibliography and a short summary of major published sources of labor market information.

"Seven Important Labor Force Trends." John A. Bailey. *Journal of Employment Counseling*, June 1982.

This article presents statistics on the changing human resources mix in the labor force. Trends include higher percentages of women working, and older men and married men leaving the work force. One result is an increasing number of persons are able to retire earlier.

*Towards Better Methods of Labor Market Analysis for Educational and Training Program Planning*. Thomas W. McClain, Ed. Massachusetts State Department of Education, Division of Occupational Education, Boston, Massachusetts, 1977.

This booklet is designed to increase understanding of labor market processes and thus to improve vocational education planning. As model illustrations, two local Massachusetts projects are described. The Worcester model, presented in chapter 1 is used by Boston University's regional manpower institute to focus on high school graduates' transition from school to work. Data analysis is advised to determine local labor market trends, community uniqueness, baseline patterns, etc. The U.S. census, Bureau of Labor Statistics, school records, and employer interviews are cited as useful resources. Chapter 2 presents research methods used by the Hampshire education collaborative. It is suggested that forecasting models include demand and supply information, sufficient job details, and changing technology considerations. Data gathering methods and steps for developing an interfacial manpower picture are discussed.

*Where to Find BLS Statistics on Women*. Beverly L. Johnson. Bureau of Labor Statistics (DOL), Washington, D.C., 1980.

This pamphlet is a guide to locating specific data about working women in the various news releases, periodicals, bulletins, and reports published by the Bureau of Labor Statistics (BLS). It shows where to obtain data on women's (1) labor force status, employment, and unemployment; (2) earnings and hours of work; (3) education; (4) membership in labor organizations; and (5) occupational injuries and illnesses. The pamphlet also explains how to obtain unpublished data from micro tapes, and how to obtain BLS publications. A list of BLS regional offices is included.

# REFERENCES

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Norris, W.; Zeran, F.R.; and Hatch, R.N. *The Information Service in Guidance.* 2d ed. Chicago: Rand McNally, 1966.

Roth, R.M.; Hershenson, D.B.; and Hilliard, T.; eds. *The Psychology of Vocational Development.* Boston: Allyn and Bacon, 1970.

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*The Schools and the Challenge of Innovation.* Supplementary Paper No. 28. New York: Committee for Economic Development, 1969.

Sheldon, E.B., and Glazier, R.A. *Pupils and Schools in New York City: A Fact Book.* New York: Russell Sage Foundation, 1965.

*The Transition From School to Work.* A Report Based on The Princeton Manpower Symposium. Princeton: Industrial Relation Section, Princeton University, 1968.

U.S. Welfare Administration. *Getting Hired, Getting Trained.* Prepared by National Committee on Employment of Youth. Washington, D.C.: U.S. Government Printing Office, 1965.

# INTRODUCTION

In these days of rapid change, it is important to understand some basic concepts concerning our economy. This module explores three concepts and relates them to the *Occupational Outlook Handbook*. Each concept is developed through a specific learning experience. Upon completion of each learning experience, workshop participants not only will have a better understanding of the concept, but also will be more familiar with the *Occupational Outlook Handbook* as it reflects the concept; and participants will be able to design an infused lesson that demonstrates this concept.

**CATEGORY:** Economy

**KEY CONCEPTS:**

1. A community's local economic condition is determined by the nature of its population, climate, geographic location, resources, and mix of industries.

2. The nation's economic condition is constantly changing because of decisions made by businesses, consumers, and governments. Factors that affect national and local economies include changing technologies, business conditions, population patterns, consumer preferences, and availability of resources.

3. Technological change affects the job security of workers and the skills required of workers. As productivity increases as a result of technological changes, real wages also increase.

**COMPETENCIES:** After completion of this module, workshop participants (teachers of various subjects) will be better able to—

1. explain how characteristics of a community can affect its economic conditions;

2. describe an activity that infuses into their curricula the idea that local economic conditions are influenced by the characteristics of the community;

3. explain how decisions made by and factors related to businesses, consumers, and governments affect the nation's economic condition;

4. describe an activity that infuses into their curricula the idea that economic changes relate to decisions and factors associated with various groups;

5. provide examples of how technological changes affect the job security of workers and the skills of workers; and

6. describe an activity that infuses into their curricula the idea that technological changes affect the job security and skills of workers.

## LEARNING EXPERIENCE I

## LOCAL ECONOMIC CONDITIONS

**KEY CONCEPT:** A community's local economic condition is determined by the nature of its population, climate, geographic location, resources, and mix of industries.

**COMPETENCIES:** Workshop participants will be better able to—

1. explain how characteristics of a community can affect its economic conditions and
2. describe an activity that infuses into their curricula the idea that local economic conditions are influenced by the characteristics of the community.

**PERFORMANCE OBJECTIVES:** Workshop participants will demonstrate an understanding of how the characteristics of a community affect its economic conditions by completing two worksheets.

Workshop participants will develop an infused lesson that relates to the above concept and that use information from the *Occupational Outlook Handbook*.

---

**OVERVIEW:** The purpose of this learning experience is to make workshop participants aware of the characteristics that impact on the local community and of how these characteristics interact with the national economy. After completing this learning experience, workshop participants will be able to develop infused lessons based on the ideas discussed within the learning experience.

---

| **INSTRUCTOR'S INFORMATION:** | | |
|---|---|---|
| | Time | 90 minutes |
| | Workshop Resources | *Occupational Outlook Handbook* (1982-83 edition)<br>**Worksheet Masters**<br>Population and Local Economy—page V-13<br>Location and Economy—page V-14<br>Model Lesson Plan—page V-15<br>Lesson Plan Format—page V-16 |

**Transparency Masters**
Location and Resources—page V-17
Industrial Mix—page V-19
Diversified Industrial Base—page V-21

|  |  |
|---|---|
| Instructional Methods | Group discussion<br>Individual activities |

| Instructor's Outline | Notes |
|---|---|
| I. Introduction of Learning Experience | |
| A. Discuss the purpose of this activity—to describe influences on local economic conditions. Emphasize that the local and national economies are interrelated. | Stress nontechnical aspect of discussion. |
| B. Emphasize that this learning experience will culminate in a lesson-writing activity. | Administer the pre-workshop portion of the "Competency Opinionnaire" found on page V-84. |
| C. If appropriate in terms of the group's knowledge, use as an introductory activity the "Role-Playing Game" on page V-59 of Learning Experience III. | |
| II. Exploring the Local Economy | |
| A. Mention briefly points to be made in this first learning experience. Emphasize that population, natural resources, and changing technology affect both local and national economies. Stress that all elements of the economy are interrelated. | |
| 1. Savings deposited by local consumers affect the economy. For example, the housing industry is hurt by recession partly because people are depositing less and banks therefore have less money for mortgages. | |
| 2. The demography of an area affects local economy. For example, areas with large concentrations of senior citizens have different consumer needs than areas with populations of a younger average age. | |
| 3. The income level of consumers determines the items that will be purchased. Example: Beverly Hills, California, residents may buy different items than residents of Glens Falls, New York, would. | |
| 4. Changing consumer tastes affect the economy. Example: Less beef is now raised because we realize that some health problems are linked to red meat intake. | |
| B. Explain that participants will explore how a local economy functions similarly to the national economy. | |

| Instructor's Outline | Notes |
|---|---|
| III. The Population and Local Economy | |
| A. Discuss the fact that local industry relates to the age of the population. Present the following examples: | |
| 1. The housing industry of Florida is different from that of northern states partly because of differences in age patterns. For example, the Florida cities populated mainly by senior citizens often have many single-story and easy-access facilities. These cities similarly will have different needs in the areas of health care, transportation, recreation, etc., than some other areas. | |
| 2. Cities with younger populations have entirely different economies than cities with older populations. Example: Texas boom towns will have a lot of youth-oriented needs, such as schools and clothing stores. | |
| B. Have participants complete the worksheet, "Population and Local Economy." Emphasize that these are fictional statistics and that there are no right or wrong answers. | Distribute worksheet—"Population and Local Economy"—found on page V-13. |
| 1. Ask participants to complete the blank spaces with numbers that are logical for the two cities. | |
| 2. Discuss possible answers as follows: | If participants have trouble starting the activity, complete "a" for them. |
| a. Any number above 100 is logical, since the older population of Saratoga probably requires more medical doctors than Pleasantville. | |
| b. Any number above 20 is logical, since the larger number of children in Pleasantville probably requires more pediatricians. | |
| c. Any number could be justified, but given the income level and California's proclivity for cars, probably there are at least 65 new Cadillacs (at least equal to the number in Saratoga). | |
| d. Given the similarity of total population, the number of carpenters is probably about equal. | |

| Instructor's Outline | Notes |
|---|---|
| e. Since there are fewer children in Saratoga, there are probably fewer teachers than in Pleasantville (i.e., less than 540). | |
| f. Given the similarity of total population, the number of beauty shops in the two cities is probably about equal. Some might argue that senior citizens are more likely to have their hair done and that, therefore, Saratoga has more. | |
| g. Given the similarity of total population, the logical choice would be about 12. | |
| h. There would probably be more loan companies in Pleasantville because of the younger population, which is more likely to borrow money for cars, housing additions, and so on. | |
| IV. Geographic Location and Natural Resources Affect the Economy | |
| A. Use transparency V.I.1 to introduce this discussion on the importance of local resources and geographic location. | Show transparency V.I.1—"Location and Resources"—found on page V-17. |
| 1. The answer to question 1 on the transparency is "B," since all other choices are affected by location. | |
| 2. The answer to question 2 is debatable from the standpoint that natural resources had an effect on each choice. Probably Portland, Oregon, was most dependent on its natural resource of lumber. | |
| B. Explain that the geographic location and natural resources of a community have an influence on the number and types of industries that settle there. Present the following examples: | |
| 1. Pittsburgh, Pennsylvania, developed as a heavy industrial site because of its proximity to raw materials and excellent transportation. The city's local economy was affected by the growing steel industry of the early twentieth century. As more workers settled there, the economy developed to meet increasing consumer needs for food, clothing, and shelter. In addition, more schools had to be built and city government expanded. | |

| Instructor's Outline | Notes |
|---|---|
| 2. The area of Route 28 near Boston, Massachusetts, developed as a high-technology (computers) area largely because of its proximity to advanced educational institutions, promotion as a high-technology area by local government, and central location in the industrialized Northeast. The local economy was affected by the influx of highly educated and well-paid professionals. | |
| C. Have participants complete the worksheet, "Location and Economy." Emphasize that these are fictional statistics and that there are no right or wrong answers. | Distribute worksheet—"Location and Economy"—found on page V-14. |
| 1. Ask participants to complete the three graphs in a logical manner considering the information given about the two cities. | |
| 2. Discuss participants' completion of these graphs using the following suggestions: | |
| a. Population—Highville's population would probably have declined because of the decline in the use of marble as a building material. Youngtown probably increased with the general migration to the Sun Belt. | |
| b. Income level—Both cities probably suffered a decline during the 1930s with an upswing in 1940. Youngtown's income probably increased more dramatically than Highville's, considering the presumed decline of the marble business. | |
| c. Number of pediatricians—The number of Highville's pediatricians probably declined along with the general decline of the city. (If participants showed an increase of Highville's population, the number of pediatricians should increase.) The number of Youngtown's pediatricians may not have greatly increased if the population increase was caused by an influx of senior citizens. | |
| V. Mix of Industries and Economy | |
| A. Use transparency V.I.2 to introduce this section. The best answer to the question shown is "A" because in a recession, beer sales may actually rise. This can be explained because laid-off workers have more time to "drown their sorrows." | Show transparency V.I.2—"Industrial Mix"—found on page V-19. |

| Instructor's Outline | Notes |
|---|---|
| B. Mention that the mixture of industry (or lack of mixture) can have a strong impact on the community's economic condition. Present the following examples:<br>1. Communities with a single major industry are dependent on that industry for their economic conditions. Example: Detroit, Michigan, is in a recession whenever the automobile industry is slow. During a recession, Detroit's small businesses have a hard time existing, and the pressures on local government become greater as more people need social services while fewer can support the cost of these services. Poughkeepsie, New York, is an example of an area that is booming because its major industry, electronic hardware, is booming.<br>2. An area with a diversified industrial base is less dependent on the economic condition of any one major industry. Example: Albany, New York, has a mixture of state government activities, light industries, and supporting industries and is much less affected by a recession than a city like Detroit. When a major employer in Albany, such as Tobin Packing Company, lays off hundreds of workers, many workers are able to find employment in other businesses. | |
| C. Summarize the preceding discussion by using transparency V.I.3. | Show transparency V.I.3—"Diversified Industrial Base"—found on page V-21. |
| D. Divide participants into small groups and have each group identify approximately fifteen occupational clusters a community could have, that would help it weather a general recession.<br>1. Ask participants to use pages vii through ix of the 1982-83 *OOH* to trigger ideas of "recession-proof" occupational clusters.<br>2. There are no right or wrong answers, but participants should be able to justify their answers. For example, since people must eat even in a recession, agricultural industries—such as food growers, food packers, and food distributors—should be sources of jobs even during a recession. | Use the *OOH*. |

| Instructor's Outline | Notes |
|---|---|
| VI. The *OOH* and Local Economy | |
| A. Have participants look in the *Occupational Outlook Handbook* for references to the local economy. | Use the *OOH*. |
| B. Indicate that the following local economy references can be found: | |
| 1. In the "Tomorrow's Jobs" section, the discussion of regional differences found on page 13 of the 1982-83 *OOH* addresses the effect that local economy will have on occupational outlook. | |
| 2. The descriptions of individual occupations include the impact the economy has in specific situations. An example is found on page 182 of the 1982-83 *OOH* in the discussion of the job outlook for emergency medical technicians. This discussion emphasizes the fact that differences in the local economic structure greatly affect the number of paid EMT positions. | |
| C. Instruct participants to list at least three descriptions of occupations found in the *OOH* that make reference to the local economy. | |
| 1. Suggest that participants look at the "Employment," "Job Outlook," and "Earnings" sections to find references to local economic conditions. | Write response on the chalkboard or large sheet of paper. |
| 2. After all participants have found three examples of these references, ask them to discuss them with the group. | |
| VII. Local Economy and Infusion | |
| A. Ask each participant to develop an activity that infuses into the curriculum an idea presented in this learning experience. | Participants can work individually or in small groups. Distribute "Model Lesson Plan" found on page V-15. |
| B. Ask a few participants to share their ideas. | Use the "Lesson Plan Format" found on page V-16. |

| Instructor's Outline | Notes |
|---|---|
| VIII. Wrap-Up<br>A. Ask participants whether they have any questions regarding what has been discussed.<br>B. Indicate that in the next learning experience participants will explore the national economy. | |

## POPULATION AND LOCAL ECONOMY

| | Pleasantville, CA | Saratoga, FL |
|---|---|---|
| Population | 28,300 | 32,200 |
| Average age | 37 | 52 |
| Number of people between 18 and 50 years of age | 18,500 | 9,500 |
| Number of people over 50 | 3,400 | 18,300 |
| Number of school age children | 5,400 | 3,600 |
| Number of full-time employed people | 12,400 | 7,400 |
| Average family income | $25,500 | $16,200 |

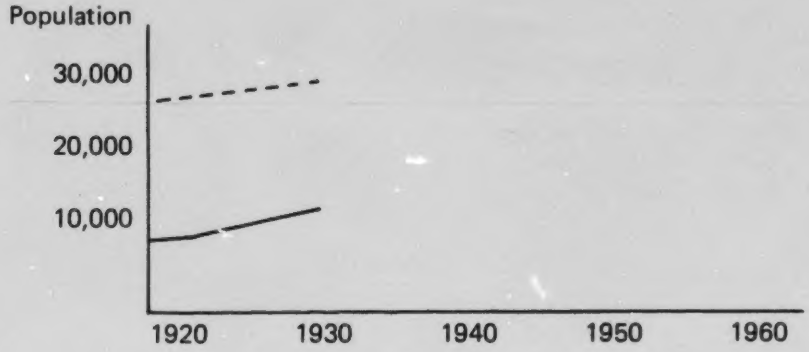
**Directions:** Fill in the blank spaces in this chart with figures that are logical. There are no absolute answers.

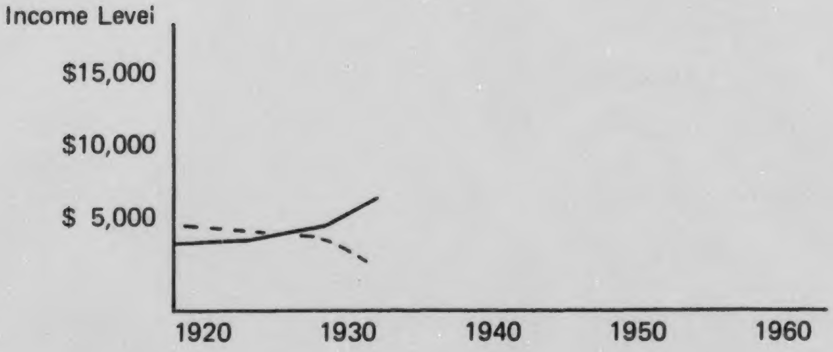
| | | |
|---|---|---|
| Number of MDs | 100 | a)_____ |
| Number of pediatricians | b)_____ | 20 |
| Number of new Cadillac cars | c)_____ | 65 |
| Number of carpenters | 250 | d)_____ |
| Number of teachers | 540 | e)_____ |
| Number of beauty shops | f)_____ | 28 |
| Number of supermarkets | g)_____ | 12 |
| Number of loan companies | h)_____ | 5 |

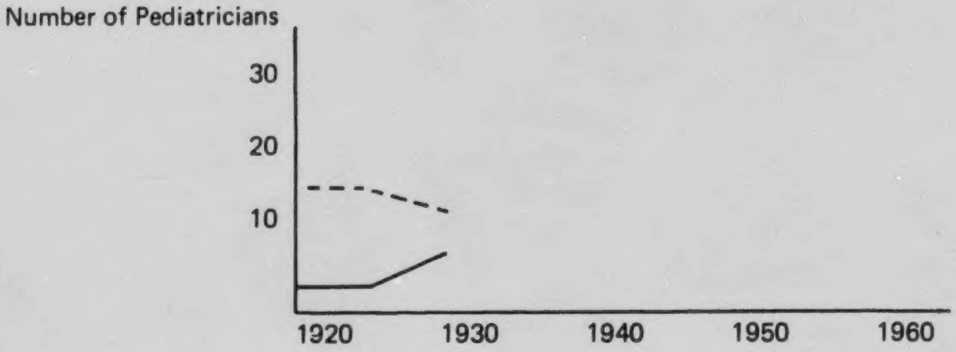
## LOCATION AND ECONOMY

**Directions:** Complete the development graphs for two cities—Highville, Vermont, a town that developed near a marble quarry in 1860, and Youngtown, Arizona, a town that was developed as a resort in 1920. There are no absolute answers. Remember that there was a national depression in the 1930s, that marble is no longer a major building material, and that the Sun Belt has attracted many retirees.

Highville – – – – –    Youngtown ————







HANDOUT

# MODEL LESSON PLAN

**Title:** The Economy

**Grade Level:** 8 **Subject Area:** Social Studies

**Lesson Goal:** The student will learn that a community's local economic condition is determined by the nature of its population, climate, geographic location, resources, and mix of industries.

**Lesson Objectives:**

1. The student will be able to list three natural resources which have contributed to the local economy of three different cities in the country.
2. The student will be able to list three local natural resources which have contributed to their own local economy.

**Time Requirement:** Several class periods

**Description of Activity:**

1. Teacher passes out student maps of the United States and leads a discussion on major resources as students mark them on maps. (Examples: Great Lakes and St. Lawrence River, Texas oil fields, Mid-Western wheat plains, River Systems)
2. Each student chooses three different cities and using reference material, lists natural resources which have contributed to each.
3. During a class discussion, each student explains findings for one city.
4. Upon completion of the above activity, the teacher will distribute copies of local maps. The same procedure is followed for local economy.

**Resources:**

**Materials:** Student copies of map of the United States, student copies of map of local community, reference library, atlases and/or encyclopedia

**Evaluation:** At the completion of both the U.S. and local activities, each student will be able to list three examples of natural resources which affect the economy of their local community.

**Source:** *Career Education*, Hazard Schools, Kentucky, 1973.

WORKSHEET

## LESSON PLAN FORMAT

**Title:**

**Grade Level:** **Subject Area:**

**Lesson Goal:**

**Lesson Objective(s):**

**Time Requirement:**

**Description of Activity:**

**Resources:**

- **Materials:**
- **People:**
- **Space/Equipment:**

**Evaluation:**

## LOCATION AND RESOURCES

What item is least affected by the geographic location of a city?

A. power costs
B. percentage of females in population
C. transportation costs
D. cost of produce

Local natural resources most affected the development of which city?

A. Columbus, Ohio
B. Portland, Oregon
C. New York, New York
D. Salt Lake City, Utah

TRANSPARENCY MASTER V.I.1

# INDUSTRIAL MIX

The mix of industry is a factor in how a local community is affected by an economic recession. Listed below are examples of the dominant industries in a community. Which would be least likely to be affected adversely by a recession?

A. beer brewery
B. vacation trailer assembly
C. electric range and refrigerator plant
D. resort area

TRANSPARENCY MASTER V.I.2

## DIVERSIFIED INDUSTRIAL BASE

Discuss the following characteristics of an area which has a dominant major employer compared to one with many employers.

- pay levels
- economic vulnerability
- prosperity of local economy
- training programs in area
- transfering to another job
- unemployment level
- ability to find a job

TRANSPARENCY MASTER V.I.3

## LEARNING EXPERIENCE II

## THE ECONOMY AND CHANGE

**KEY CONCEPT:** The nation's economic condition is constantly changing because of decisions made by businesses, consumers, and governments. Factors that affect national and local economies include changing technologies, business conditions, population patterns, consumer preferences, and availability of resources.

**COMPETENCIES:** Workshop participants will be better able to—

1. explain how decisions made by and factors related to businesses, consumers, and governments affect the nation's economic condition and

2. describe an activity that infuses into their curricula the idea that economic changes relate to decisions and factors associated with various groups.

**PERFORMANCE OBJECTIVES:** Workshop participants will demonstrate an understanding of the interrelated components of the economy by logically completing several worksheets that address factors and decisions made by businesses, consumers, and governments and their effect on the economy.

Workshop participants will use the *Occupational Outlook Handbook* in designing an infused lesson that addresses the above concepts.

---

**OVERVIEW:** This learning experience will discuss the general functioning of our economy. It is not intended as an in-depth exploration of the concept, but rather as a general examination that stresses the interrelationships of various aspects of the economy.

---

**INSTRUCTOR'S INFORMATION:**

| | |
|---|---|
| Time | 120 minutes |
| Workshop Resources | *Occupational Outlook Handbook* (1982-83 edition)<br>**Handout/Worksheet Masters**<br>The Economy—page V-35<br>Hometown versus Another Town—page V-36<br>National/Local Economy—page V-37 |

Governments' Role in the Economy—page V-38
Hypothetical Business Cycles—page V-39
Model Lesson Plan—page V-40
Lesson Plan Format—page V-42

**Transparency Masters**
Interest Rates—page V-43
Business Decisions—page V-45
Government Roles—page V-47
Technology—page V-49
Business/Recession—page V-51
Hypothetical Business Cycles—page V-53

Instructional Methods
Group discussion
Individual activities
Small group activities

| Instructor's Outline | Notes |
|---|---|
| I. Introduction of Learning Experience | |
| A. Explain that the purposes of the learning experience are (1) to explore relationships between components of our economy and (2) to design an infused lesson. | Stress nontechnical aspect of discussion. Refer handout—"The Economy"—found on page V-35 for additional background information. |
| B. Use transparency V.II.1 to introduce this learning experience. Explain that this question reflects the complexity of the national economy. That is, the daily lives of vast numbers of "ordinary" citizens are affected by the events linked to the flow of the nation's economy. | Show transparency V.II.1—"Interest Rates"—found on page V-43. |
| 1. The best answer to the question is "A" because the automotive industry (and its related industries, such as tire, steel, and glass production) is most severely affected by high interest rates, since car loans are most directly linked to the prime interest rates. | Avoid complex discussion of market dynamics. Emphasize instead the interrelationships of segments of the economy. |
| 2. Choices "C" and "D" also could suffer with a rise in the interest rates. However, the housing industry is not quite as directly dependent as the auto industry on loan rates. This is because of a variety of government loan aids and private alternative financing plans aimed at helping the home buyer. | |
| 3. Choice "B" illustrates that some occupations are relatively "recession-proof." This point has been made in Learning Experience I, but it could be reinforced here. | |
| 4. Summarize the discussion by emphasizing that this learning experience will briefly explore the various complexities of the economy. Emphasize that the national economy is much too complex to explore thoroughly in this brief learning experience and that participants should strive for a general understanding of the interrelationships involved. | |
| C. Indicate that the first area to be explored is how decisions made by different groups affect the economy. | |

| Instructor's Outline | Notes |
|---|---|
| II. The Economy and Influencing Decisions | |
| A. Explain that consumers affect the nation's economic condition in the same manner in which they affect the local economy. | Refer participants to pages 20-21 of the 1982-83 *OOH*. Refer back to II, "Exploring the Local Economy," in the previous learning experience. Discuss this concept from the standpoint of the national economy. |
| B. Have participants complete the worksheet, "Hometown versus Another Town," which lists economic differences dependent on geographic locations. Emphasize that this is designed to illustrate the interrelationships discussed in Learning Experience I. The purpose of the activity is to cause participants to analyze differences between communities and how these differences affect the economy. | Distribute worksheet—"Hometown versus Another Town"—found on page V-36. |
| 1. Housing in a small city is usually less expensive but less a source of jobs than large city. It is almost always linked to interest rates, which are determined nationally. | |
| 2. Demography is dependent on participants' locations. National trends, of course, indicate a move toward the Sun Belt, but the Northeast still has a concentration of finance and high-technology industry, and the Midwest still is important as a food supplier. | |
| 3. Income levels in smaller, more rural areas tend to be lower, but this is not always the case. Emphasize that participants should really think about their hometowns as opposed to national trends. Many towns are not direct reflections of the national economy. | |
| 4. Consumer tastes are dependent on the participants' areas. Stress that each should try to think of differences between their local consumer tastes and national trends. | |
| C. After they have completed the worksheet, ask participants to share their discoveries. The diversity of the backgrounds of the participants will obviously affect the number of different analyses. | |

| Instructor's Outline | Notes |
|---|---|
| D. Explain that business decisions also affect the economic condition. As transparency V.II.2 indicates, one company's decision to locate in a specific area helps the economy of that area. Present the following situations and examples. Ask participants to provide additional examples for each situation.<br>1. Producers decide what items and how many items to make. Example: Detroit now makes smaller cars because consumers have changed preferences.<br>2. Producers also decide how items are made. Example: Detroit is now automating many operations that in the past were performed manually. This, in turn, has eliminated many jobs.<br>3. Although automation creates jobs for robot designers, builders, and repairers, there is no evidence that the number of new jobs will equal the number of displaced workers.<br>4. Producers also decide capital expenditures, which influence the economy. Example: IBM has built new facilities in Poughkeepsie, New York, which has enhanced the area's economy. | Show transparency V.II.2—"Business Decisions"—found on page V-45. |
| E. Have participants complete the worksheet, "National/Local Economy," which relates national economic trends/events to their local economies.<br>1. Participants should try to describe three local businesses affected by national trends. For example, a local recreational vehicle manufacturer may have gone bankrupt because high interest rates and fuel costs priced its product out of reach.<br>2. Conduct a brief discussion to allow participants to share their analyses of national/local economic links. | Distribute worksheet—"National/Local Economy"—found on page V-37. |
| F. Explain that governments also affect the economic condition. Present the following situations and examples. Ask participants to provide additional examples for each situation.<br>1. The governments are major consumers and providers. Example: They buy the services of police, schools (local), and military personnel (federal). | Show transparency V.II.3—"Government Roles"—found on page V-47. |

**Instructor's Outline** | **Notes**

2. Governments are policymakers. Example: The Federal Reserve determines money supply and Congress sets the minimum wage.

3. Governments' regulations affect the economy. Example: Occupational Health and Safety Administration rules have raised the cost of heavy equipment by requiring the use of additional warning signals. But these rules have also increased the health and safety of workers, which could decrease health costs.

4. Governments redistribute money. Example: Workers support senior citizens through the FICA tax.

5. Governments affect the economy with foreign trade decisions. Example: The U.S. steel industry might be helped if high import duty were placed on foreign steel, but this government trade policy could also lead to trade wars.

G. Have participants complete the worksheet "Governments' Role in the Economy." Each person should list five examples from national and/or local government that have not been discussed in the group. Some examples include the following:

Distribute worksheet—"Governments' Role in the Economy"—found on page V-38.

Policymaker and regulator functions can be similar.

1. Local governments act as consumers in fire service and ambulance service.

2. National governments act as policymakers in determining safety requirements for shipment of hazardous wastes.

3. Local governments act as regulators in local traffic laws and animal control laws.

4. While discussing the group's answers, explain that there can be overlap. For example, building codes often provide for inspectors, who are regulators

H. Summarize the preceding discussion by indicating that decisions made by lots of different groups—consumers, governments, and businesses—affect economic conditions. Therefore, it is important that economic changes result from influences of many groups.

**Instructor's Outline**

III. Other Influences on the Economy

A. Use transparency V.II.4 to introduce this section.

**Notes**

Show transparency V.II.4—"Technology"—found on page V-49.

1. The best answer to the question shown is "A" because the automotive industry lends itself most to automation.
2. The point should be made, however, that the other choices may be gradually affected by new technologies. The following are examples:

    B. security—remote cameras
    C. housing—automatic nailers
    D. laundry—conveyor-type cleaning devices

3. Emphasize the fact that technological influences will grow ever more significant and eventually affect virtually all occupations. For example, many drafters employed by General Electric have been displaced by automatic drafting machines. Similarly the development of the word processor is changing secretarial duties.

B. Discuss how changing technologies affect the economy. Present the following types of changes and associated examples. Then ask participants to present additional examples of changes made in the economy from 1960 to 1980.

1. Computers have greatly affected the economy. Example: Rates for long-distance telephoning have been reduced because the computer has made it a less expensive operation.
2. Many labor saving devices have reduced the cost of items. Example: The automation of the car industry lowered the costs of Fords first, and then of other brands as more companies adopted assembly lines.
3. Consumer habits are affected by changing technologies. Example: Convenience foods (frozen or in boilable bag) are available through technological advances and are increasingly demanded by modern consumers.

| Instructor's Outline | Notes |
|---|---|
| C. (Optional Activity) Have participants present one example of an industry with which they are personally familiar, which has been influenced (either positively or negatively) by changing technology. | |
| 1. An example of a local business that benefited from technology might be a manufacturer that was able to reduce the cost of its product through cheaper component parts because of automation. | |
| 2. An example of a local business that suffered because of technology might be a telephone answering service that was forced to close because of new automated systems offered by telephone companies. | |
| D. Use transparency V.II.5 to introduce the idea of business conditions and the economy. The best answer is "D" because business security is important regardless of conditions and might even prosper because of the need for increased security during poor economic times. | Show transparency V.II.5—"Business/Recession"—found on page V-51. |
| E. Present the fact that business conditions affect the economy. | |
| 1. The economy moves in cycles reflecting business conditions. Thus a good economic climate is characterized by business expansion, which leads to more jobs, while the reverse is true in bad times. | |
| 2. Some businesses are less affected by these cycles. Examples include the health care industry and food production. | |
| 3. Some businesses are susceptible to bad economic climates. Examples include the luxury boat business and the vacation/leisure business. | |
| 4. Some businesses are helped by bad economic climates. Examples include collection agencies and bankruptcy lawyers. | |
| F. Indicate that, as transparency V.II.6 shows, only the health care industry was not affected greatly by the oil embargo, which brought on a general business downturn. | Show transparency V.II.6—"Hypothetical Business Cycles"—found on page V-53. |

| Instructor's Outline | Notes |
|---|---|
| G. Discuss how the population pattern is affected by the economy. Ask participants to discuss examples of population patterns in their geographic area. | |

1. Baby booms stimulate the economy as children grow up but can depress the economy if they lead to a glut of unemployed young workers.
2. As the number of senior citizens grows, the economy has to change to meet their needs. Examples of these special needs are housing and health care.
3. As transparency V.II.6 shows, the birthrate decline affected both the health care industry (for a fairly brief time) and the housing industry. There was a lag period, during which time the declining birthrate depressed the housing market.

H. Discuss the fact that consumer preferences greatly affect the economy.

1. As life-styles change, the economy changes. Example: The increased number of working women has meant that the restaurant industry is now booming. Day-care centers are another example.
2. Changing age patterns have affected consumer preference. Example: The influence of youth caused by the post-World War II baby boom led to more leisure-oriented clothing styles.
3. Changing income levels affect consumer preference and the economy. Example: As the number of two-income families rises, the vacation industry expands because couples have more money to spend on vacation.
4. As transparency V.II.6 shows, the consumer "back to basics" movement depressed the recreational vehicle business, had less effect on housing, and had no effect on health care.

I. Explain that resources have an effect on national and local economies. Present the following examples and ask participants to provide additional examples.

1. The 1973 oil embargo is still affecting the national economy because it raised petroleum prices.

**Instructor's Outline** | **Notes**

2. Some local economies are directly linked to the rise and fall of resources. Example: Scranton, Pennsylvania, a coal producer, boomed until oil became more popular; then it lagged. If coal becomes more viable as a fuel again, this trend may reverse.

3. The exhaustion of a natural resource can limit a local economy. Example: Some booming Sun Belt states have reached the limit of their water supply, and so, further growth may be difficult.

4. Energy supply can affect local economies. Example: The Northeast was originally industrialized because of water power. It may now boom again as old and new hydroelectric plants become more important as a source of cheap energy.

5. As transparency V.II.6 shows, the oil embargo, as previously noted, had an effect on both the recreational vehicle (RV) and housing industries. RV was directly affected (higher fuel prices), and housing was indirectly affected.

J. Have participants complete the portion of the worksheet, "Hypothetical Business Cycles," that depicts 1978 to the present. Emphasize that there are no right or wrong answers. Discuss the answers, mentioning the following:

Distribute worksheet—"Hypothetical Business Cycles"—found on page V-39.

1. The RV industry would probably suffer further downturns with both high interest rates and high unemployment.

2. The health care industry would probably be least affected by a business downturn because of health insurance policies.

3. The housing industry would probably be affected about the same by high interest rates and high unemployment as RV industry.

IV. The *Occupational Outlook Handbook* and the Economy

A. Explain that the *OOH* contains information related to the ideas that have been discussed.

| Instructor's Outline | Notes |
|---|---|
| 1. The introductory chapters of the *OOH* address many aspects of the economy in varying degrees. Examples include the sections "Tomorrow's Jobs" (pages 13-19 of the 1982-83 *OOH*) and "Economic Assumptions" (pages 20-21). | |
| 2. Throughout the *OOH*, economic concepts are addressed. For example, the job outlook for the most health care providers is described as booming because of changing population patterns and rising incomes. | |
| B. Divide participants into small groups (two to three people each). Ask the groups to locate at least five examples of economic ideas presented in the sections of the *OOH* just described. Examples include the following: | |
| 1. On page 7—Manufacturing—improved production and stiff competition held growth in this sector to the lowest except for agriculture. | |
| 2. On page 20—Assumptions—it is assumed that federal grants-in-aid to state and local governments will decline. | |
| C. Have groups discuss their findings. | |
| V. Infusion and the Economy | |
| A. Have each participant develop an activity that infuses into the curriculum an idea presented in this learning experience. | Participants can work individually or in small groups.<br>Distribute "Model Lesson Plan" on page V-40. |
| B. Ask a few participants to share their activity ideas. | Use the "Lesson Plan Format" found on page V-42. |
| C. (Optional Activity) Rather than each participant developing another lesson plan, volunteers may present a previously developed infused lesson plan to the group. | |

| Instructor's Outline | Notes |
|---|---|
| VI. Wrap-Up<br>A. Tell participants that this learning experience focused on the interrelationships of businesses, consumers, and governments and the effects that those factors have on the nation's economy.<br>B. Indicate that in the next learning experience participants will discuss the relationship between technological change and job security. | |

**HANDOUT**

## THE ECONOMY

*Economics* is a word that many people equate with images of dry, wordy, boring textbooks; long formulas; and obscure subjects. Actually, the study of economics is the study of people living and working together and of how they provide for their needs and wants. Economics involves money, food, factories, people, war, farming, energy, laws, profits, taxes, prosperity, and depression. In short, it is the exploration of how and why people trade, produce, save, and spend.

Learning economics can be as complex as our complex society, but it does not have to be. Economic concepts are fairly simple and easy to learn, and they apply to all aspects of daily living.

As our society has changed from an agrarian to an industrial to a computer society, so has our economy changed. Just as the colonist of the 1700s needed to understand the barter system, today's citizen should understand electronic fund transfer. The information explosion of our current society has made understanding the interrelationships of the elements that constitute our economy more difficult, but an understanding of a few basic economic concepts is all that is necessary for a fundamental knowledge base.

Both the local and national economies are very complex and function as the result of many interrelated events. It is impossible to treat an event as having an isolated effect on either the local or the national economy. Thus, a fire that destroys a neighborhood supermarket that has obvious impact on the local economic climate could also have an eventual impact on the national economy because of its effect on insurance rates.

There are many factors that influence both local and national economies. Some examples of these factors are business conditions, population patterns, consumer preferences, and resource availability. It is obvious that the local economy of a retirement community will be different from that of a manufacturing area. Similarly, the national economy reflects the changes in population. As the general population has a larger percentage of older people, the economy changes as a result.

In general, changes in the local economy reflect changes in the national economy. For example, the high interest rates nationwide tend to depress local housing and automobile markets. Similarly, familiarity with local economic conditions generally makes it easier to understand national economic conditions.

A final consideration concerns the effect of changing technology on both local and national economies. The general principle is that improved productivity leads to higher real wages. Obviously, then, improving technology will lead to improving real wages, and this can be seen by comparing real wages at the beginning of the industrial era to real wages today.

Unfortunately, improving technology can have negative impact on some workers. For example, automation, while improving factory working conditions, can lead to job loss for some workers.

Our nation is now entering the "computer era," which will bring as many changes as did the "industrial era." This new era will affect the economy in ways that cannot be predicted.

WORKSHEET

## HOMETOWN VERSUS ANOTHER TOWN

**Directions:** Compare the housing, demography, income level, and consumer tastes in your hometown with a community of *different size*. Use a town with which you are familiar. Write brief descriptions for each category.

| | **Hometown** | **Another Town** |
|---|---|---|
| Housing<br>(cost, availability, source of jobs, etc.) | | |
| Demography<br>(nature of population—age, educational level, number of employed, etc.) | | |
| Income level<br>(percentage of unskilled, skilled; white- and blue-collar, service; retired; etc.) | | |
| Consumer tastes<br>(regional differences) | | |

## NATIONAL/LOCAL ECONOMY

**Directions:** Choose three national events, such as the oil embargo of 1973. Next list one local business that was affected by each event. Finally, describe the effect the national event had on local business in your area.

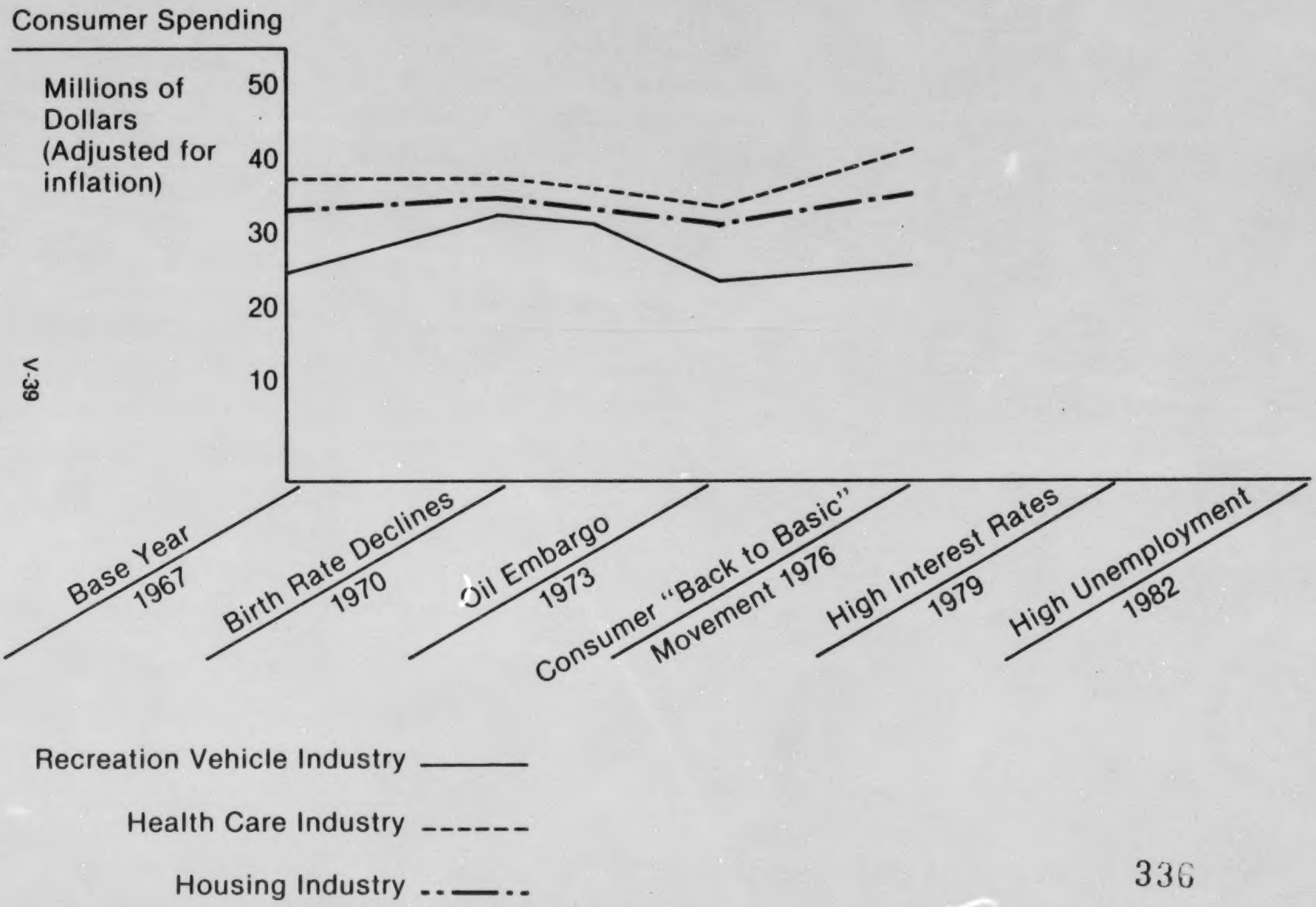
| National Economic Event/Trend | Hometown Business | Effect on Local Business |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |

## GOVERNMENTS' ROLE IN THE ECONOMY

**Directions:** List five examples of local and/or national government agencies and mark each agency's appropriate role.

| | Role | | |
|---|---|---|---|
| **Government Agency** | **Consumer** | **Policymaker** | **Regulator** |
| Example: Local Police Department | X | | |
| **1.** | | | |
| **2.** | | | |
| **3.** | | | |
| **4.** | | | |
| **5.** | | | |

# HYPOTHETICAL BUSINESS CYCLES



V-39

WORKSHEET

HANDOUT

## MODEL LESSON PLAN

**Title:** Where Do You Stand

**Grade Level:** 12 **Subject Area:** Economics/Social Studies
Sociology

**Lesson Goal:** The student will learn that the nation's economic condition is constantly changing because of decisions made by businesses, consumers, and governments. Factors which affect national and local economies include changing technologies, business conditions, population patterns, consumer preferences, and availability of resources.

**Lesson Objective:** The student will be able to describe three examples of how governments' action affects the national economy.

**Time Requirement:** 45 minutes

**Description of Activity:**

1. Students individually complete worksheet.
2. Each student chooses one item from each column (support, oppose, and undecided) and writes a brief explanation of the affect each would have on the economy and the reasons for support, opposition, or indecision.
3. A survey determines which issue is most evenly divided between support and opposition.
4. Class is divided into supporters and opposers of the issue identified by step 3 and the sides debate depending on their pro or con stance.
5. At the close of the debate, each issue is discussed for examples of possible effects on the economy.

**Resources:**

**Materials:** Handout, "Where Do You Stand on These Issues?"

**Evaluation:** Given the list of government actions, each student will be able to describe possible effects on the economy which could result from three of the actions.

**Source:** *Con-Ec-Tions*, Vol. III, #1 October, 1981

HANDOUT

## WHERE DO YOU STAND ON THESE ISSUES?

| Issue | Support | Oppose | Undecided |
|---|---|---|---|
| 1. Legislation to allow small businesses to keep the patents on inventions they have developed with federal assistance. | | | |
| 2. Mandatory wage and price controls. | | | |
| 3. Public-supported health care for all citizens. | | | |
| 4. A guaranteed income above the poverty level for all. | | | |
| 5. Reducing the highest individual income tax rate from 70% to 50%. | | | |
| 6. The imposition of mandatory credit controls. | | | |
| 7. An import duty on imported oil. | | | |
| 8. Restricting the power of the FTC to regulate advertising. | | | |
| 9. The deregulation of the trucking industry. | | | |
| 10. Easing emission standards for manufacturing plants. | | | |

## LESSON PLAN FORMAT

**Title:**

**Grade Level:** **Subject Area:**

**Lesson Goal:**

**Lesson Objective(s):**

**Time Requirement:**

**Description of Activity:**

**Resources:**

  **Materials:**

  **People:**

  **Space/Equipment:**

**Evaluation:**

# INTEREST RATES

High interest rates have the most effect on the employment of:

A. tire worker
B. medical technician
C. carpenter
D. major appliance salesman

# BUSINESS DECISIONS

An electronics firm producing integrated chips for computers has decided to relocate to an area and will hire 500 people. This will be a boost to the local economy because a foundry has closed in the past year laying off 500 people. Discuss the impact of this business decision on:

V-45

- Availability of workers
- Employability of former foundry workers
- Training programs at area schools
- Geographic mobility patterns of workers

TRANSPARENCY MASTER V.II.2

# GOVERNMENT ROLES

Government acts in the capacity of consumer, producer, and regulator at various times.

Indicate which rule the government plays in the following: (C) (P) (R)

- — Ordering office supplies
- — Providing health services at a V.A. hospital
- — Teaching elementary students
- — Issuing a building permit
- — Setting of the discount rate by the Federal Reserve Bank
- — Restaurant and food inspection
- — Services of the office of vocational rehabilitation
- — Mail delivery
- — Publication of the unemployment rate
- — Weather reports
- — Coast guard search and rescue
- — Fire departments services

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TRANSPARENCY MASTER V.II.3

# TECHNOLOGY

Employment in which industry is most affected by automation?

a. automotive
b. security
c. housing
d. laundry

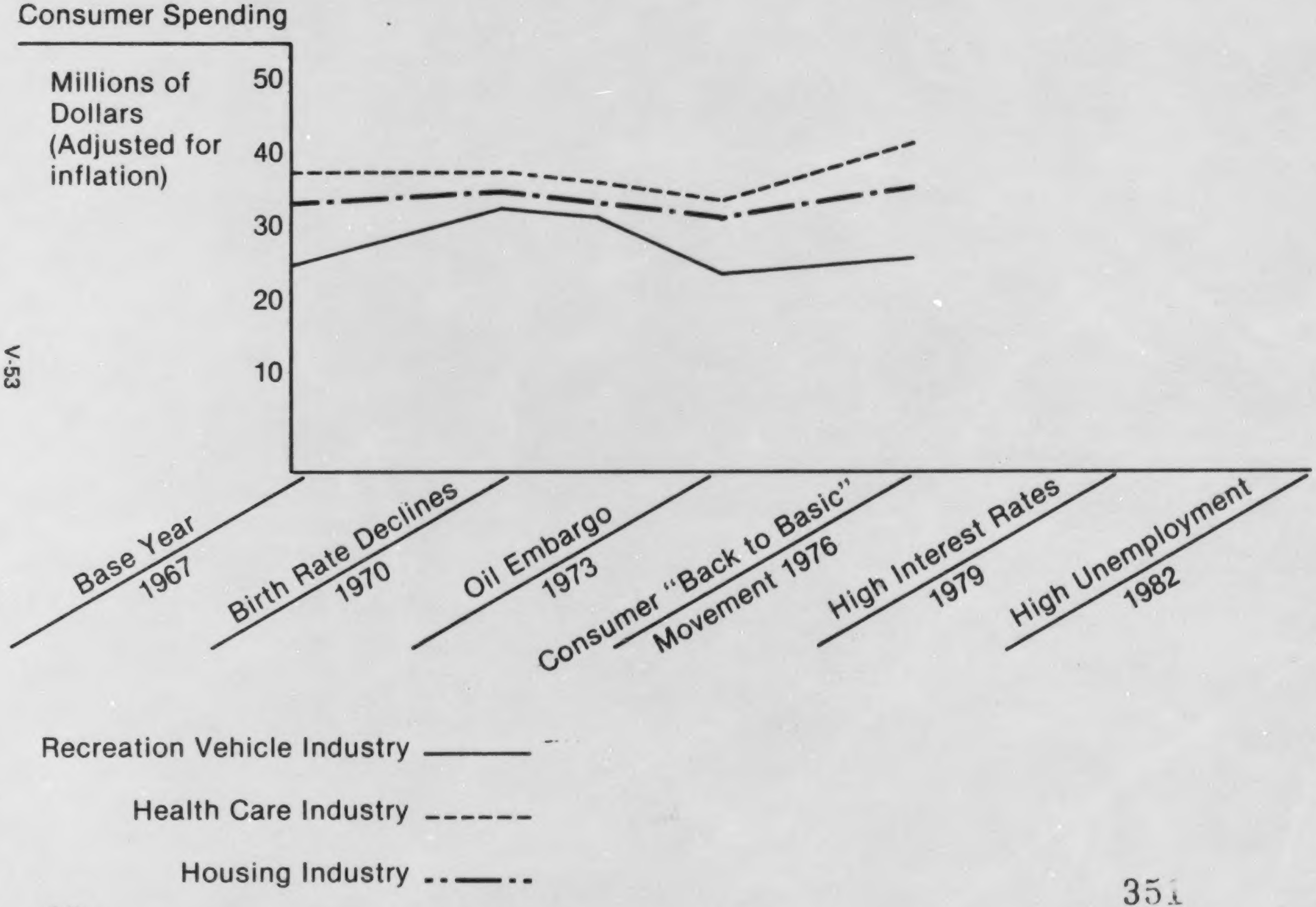
TRANSPARENCY MASTER V.II.4

# BUSINESS/RECESSION

An example of an industry that is least likely to suffer a business downturn during a recession is:

A. steel
B. autos
C. amusement and recreation
D. business security services

# HYPOTHETICAL BUSINESS CYCLES



TRANSPARENCY MASTER V.II.6

## LEARNING EXPERIENCE III

## TECHNOLOGICAL CHANGE AND JOB SECURITY

**KEY CONCEPT:** Technological change affects the job security of workers and the skills required of workers. As productivity increases as a result of technological changes, real wages also increase.

**COMPETENCIES:** Workshop participants will be better able to—

1. provide examples of how technological changes affect the job security of workers and the skills of workers and
2. describe an activity that infuses into their curricula the idea that technological changes affect the job security and skills of workers.

**PERFORMANCE OBJECTIVES:** Workshop participants will demonstrate, through their interaction during the debate and role-playing activities, an understanding of how technological changes affect the job security and skills of workers.

Workshop participants will develop an infused lesson that relates to the above concept and that uses information from the *Occupational Outlook Handbook*.

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**OVERVIEW:** This concept is particularly important today. The chances of an unskilled person getting a high paying job in the late 1980s are very slim. Indeed, many working adults have faced job layoffs because of the changing work place. It is important for teachers to try to make their students (and their parents) realize that the industry-occupation structure of the economy is changing and that future job entrants need to take this into account during career planning. Discussion during this learning experience can be useful in reinforcing the importance of education to young people as they prepare for and compete for job opportunities. A better educated working class will typically earn higher salaries.

---

| | | |
|---|---|---|
| **INSTRUCTOR'S INFORMATION:** | Time | 120 minutes |
| | Workshop Resources | *Occupational Outlook Handbook* (1982-83 edition) |
| | | **Handout/Worksheet Masters**<br>Occupation Cards—page V-63 |

Model Lesson Plan—page V-65
Lesson Plan Format—page V-67
Knowledge Quiz—page V-68

**Transparency Master**
From Past to Future—page V-71

Instructional Methods
Group discussion, debate, and role playing
Individual or small group activity

**Instructor's Outline**

**Notes**

I. Introduction of Learning Experience

A. Tell participants that the purpose of this activity is to explore the ramifications of changing technology for workers and the economy.

B. Provide a brief review of the activities included in the learning experience. You may wish to mention that role playing is among these activities.

C. Use transparency V.III.1 to introduce the concepts contained within this learning experience.

Show transparency V.III.1—"From Past to Future"—found on page V-71.

1. The answer to question 1 on the transparency is "D." Point out that work then was also characterized by low wages and unskilled or semiskilled tasks. Most industry was of the "cottage" type in which workers produced goods in their homes.

2. The answer to question 2 is "C" because the computer age will usher in nearly universal automation of assembly work.

II. Job Security and Technology

A. Discuss how the job security of workers is affected by changing technology. Mention the following points:

1. As the nation has moved into the computer age, job security for many people has decreased. For example, drafters at General Electric have been replaced by Computer-Assisted Design (CAD)/Computer-Assisted Manufacturing (CAM) computers, painters by pressurized speed painting tools, and assemblers by industrial robots.

2. The Luddites of nineteenth century England tried to destroy knitting machines because they feared the machines would threaten their jobs. Indeed, the cottage weaving industry was eliminated as people were employed by the new mills.

B. Ask participants to provide examples of jobs threatened by technology. Examples include all labor intensive work suitable for automation. This discussion could become wide-ranging if participants mention *The Third Wave* by Alvin Tofler.

| Instructor's Outline | Notes |
|---|---|
| III. Worker Skills and Technology | |
| A. Discuss how skills required of workers increase with changing technology. Mention the following: | |
| 1. More sophisticated machinery has reduced the need for unskilled labor. Examples include automated assembly machines, automated in-house mail delivery, and automated car washes. | |
| 2. As machines become more complicated, the education/training necessary to enable workers to operate them increases. A two-year degree may become as essential to obtaining a job in the near future as a high school diploma currently is. Also, older workers may need additional training in order to keep their jobs. | |
| B. Ask participants to list jobs that have become more demanding in terms of education/training requirements. Participants may use the D.O.T. listing on pages 461-470 of the 1982-83 *OOH* for ideas. Examples could include a wide variety of occupations. Examples:<br>Accountants—New computerized account systems require more technical skills.<br>Chefs—As the public has begun eating out more, tastes have become more sophisticated, requiring higher level cooking skills.<br>Mechanics—New electronic diagnostic tools require a greater degree of training. | **Write responses on the chalkboard or a large sheet of paper.** |
| IV. Changing Technology and Productivity | |
| A. Discuss how changing technologies can increase productivity, which eventually increases real wages. Productivity refers to the total cost per product. Thus, automation can improve productivity because it allows more items to be made faster, at reduced labor cost. Make the following points: | |
| 1. Wages for production workers have gradually increased since the industrial age began in the 1800s. | |
| 2. As productivity improves, the costs of goods decrease and workers' wages increase. Examples include the Model T Ford and digital watches. (Ford's assembly line auto workers also received increased wages.) | |

| Instructor's Outline | Notes |
|---|---|
| B. Ask participants to list items that have decreased in cost because of improved productivity. There are many examples: computers, quartz watches, cameras, microwave ovens, and so on. | Write the responses on the chalkboard or a large sheet of paper. |
| V. Debate on Automation | |
| A. Divide participants into two groups. | |
| B. Tell participants that they will be involved in a debate. Identify the debate position for each group—(1) pro-automation or (2) anti-automation. | Keep the debate lively and fast-moving. |
| C. Indicate that each group should include the following points in its argument: productivity, wages, job security, worker safety, job satisfaction, and entry requirements. Allow approximately 5 to 10 minutes for preliminary discussion within the groups. | |
| D. Conduct the debate by giving each participant one minute to present his/her views. For the next 15 minutes, allow participants to debate the issue informally from the perspective assigned to their group. | Alternate pro and con sides. |
| VI. Role-Playing Game | |
| A. Explain that participants are going to play a role-playing game using cards to identify roles and events. One person will act as a fortune teller, who will announce an event, such as business taxes being raised. Another will act as a reporter, who will interview workers about how the event affects them. The rest of the participants will take the roles of workers, who will identify their roles from job cards they select. | This activity may be used to introduce Learning Experience I of this module if appropriate for the group's skill level. Use the "Job Cards" and the "Event Cards" in the "Occupation Cards" set found on page V-63. Cut apart the cards before the activity begins. |
| B. Ask one participant to be the fortune teller and give him/her the "Event Cards" from the "Occupation Cards" set. Ask another to act the role of the cub reporter. | |
| C. Ask the rest of the participants to select "Job Cards" to identify their roles. Each card represents an occupation. | |

| Instructor's Outline | Notes |
|---|---|
| D. Conduct the role-playing game. For each round of the game, the fortune teller draws an event card and announces the event, and the cub reporter selects one or two workers to interview. During the interviews, the workers describe how the event affects their jobs. Then the fortune teller announces another event, the cub reporter interviews one or two other workers, and so on. | |
| VII. The *OOH* and Changing Technologies | |
| A. Point out references to changing technologies in the *Occupational Outlook Handbook.* | Use the *OOH.* |
| 1. Both "Tomorrow's Jobs" and "Assumptions" address the issues of technology. Examples:<br>• "Tomorrow's Jobs" (page 17 in the 1982-83 *OOH*)—Employment in agriculture will decline because of increased productivity due to advancing technology.<br>• "Assumptions" (page 20)—Industry output estimates use models that try to assess the impact of increased productivity. | |
| 2. Individual occupations include references to advancing technologies. The obvious ones, of course, are the computer occupations, but many other industries are affected. | |
| B. Ask participants to identify two occupations other than computer services that illustrate technological impact. An example is the job outlook for electrotypers, described on page 424. This discussion mentions that there is a poor job outlook in this field because of the impact of new labor-saving technology, even though there will be an increase in printing. | List participant responses on the chalkboard or on a large sheet of paper. |
| VIII. Infusion of Changing Technologies | |
| A. Ask participants to develop an activity that infuses into their curricula an idea presented in this learning experience. | Participants can work individually or in small groups.<br>Use the "Lesson Plan Format" found on page V-67.<br>Distribute "Model Lesson Plan" on page V-65. |

| Instructor's Outline | Notes |
|---|---|
| B. Ask a few participants to share their ideas. | |
| C. (Optional Activity) Rather than each participant developing another lesson plan, volunteers may present a previously developed infused lesson plan to the group. | |
| IX. Wrap-Up | |
| A. Ask participants whether they have any questions regarding what has been discussed in this learning experience or the module. | |
| B. (Optional Activity) Administer the "Knowledge Quiz" on economic concepts. Discussion can reinforce knowledge of the concept in this module. Answers are— | Distribute worksheet—"Knowledge Quiz"—found on page V-68. |
| (1) c, (2) d, (3) a, (4) c, (5) d, (6) a, (7) c, (8) d, (9) a, (10) d, (11) c, (12) d, (13) a, (14) d, and (15) b. | Distribute the post-workshop portion of the "Competency Opinionnaire" and the "Workshop Effectiveness Worksheet" found on pages V-84 and V-86. |

**HANDOUT**

## OCCUPATION CARDS

**Job Cards (cut on lines) Make copy of the page and cut copy.**

| | | |
|---|---|---|
| Carpenter | Teacher | Physician |
| Store Clerk | Mason | Computer Repairer |
| Registered Nurse | Lawyer | Police Officer |
| Truck Driver | Plumber | Practical Nurse |
| Farmer | Machinist | Computer Operator |
| School Secretary | Factory Assembler | Insurance Salesperson |
| Real Estate Salesperson | Factory Secretary | Fire Fighter |
| Government Secretary | Store Manager | Car Salesperson |

**Event Cards (cut on lines) Make copy of page and cut copy.**

| | | |
|---|---|---|
| Government limits steel imports. | Minimum wage is raised. | National health care takes effect. |
| Oil embargo is imposed by OPEC. | Food production doubles. | Business taxes are raised. |
| Factory is automated. | Government spending is halved. | Interest rate is cut by 3 percent. |
| Number of illegal aliens is reduced through deportation. | Income tax is eliminated. | Number of college students declines. |
| Electronic shopping is established. | Unemployment is high. | Unemployment is low. |

## MODEL LESSON PLAN

**Title:** The Year 2000

**Grade Level:** 9 **Subject Area:** Science/Industrial Arts/English

**Lesson Goal:** The student will learn that technological change affects the job security of workers and the skills required of workers. Real wages increase as productivity increases.

**Lesson Objective:** The student will be able to describe possible changes in three occupations by the year 2000 and the impact these changes will have on job security of those workers.

**Time Requirement:** 45-90 minutes

**Description of Activity:**

1. Each student uses the 2000 AD calendar to find the day of the week on which his/her birthday will fall and calculates his/her age.
2. Each student lists three possible occupations in which he/she might be engaged in the year 2000.
3. For each of the three occupations, the student lists two possible technological advances and the effect it would have on his/her job security (Example: Carpenter—Use of modular construction and prefabrication might severely limit job openings).
4. A class discussion focuses on students' analysis of the most/least technology effected occupation.

**Resources:**

**Materials:** Calendar for the year 2000

**Evaluation:** Each student will be able to list at least three possible technological changes occurring by the year 2000.

**Source:** *Career Exploration Project*, Wayne, MI

## CALENDAR FOR THE YEAR 2000

### January

| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
| . | . | . | . | . | . | 1 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 30 | 31 | . | . | . | . | . |

### February

| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
| . | . | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | . | . | . | . |

### March

| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
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| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 26 | 27 | 28 | 29 | 30 | 31 | . |

### April

| S | M | T | W | T | F | S |
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| . | . | . | . | . | . | 1 |
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| 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 30 | . | . | . | . | . | . |

### May

| S | M | T | W | T | F | S |
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| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | 31 | . | . | . |

### June

| S | M | T | W | T | F | S |
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| . | . | . | . | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | . |

### July

| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
| . | . | . | . | . | . | 1 |
| 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 30 | 31 | . | . | . | . | . |

### August

| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
| . | . | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | 31 | . | . |

### September

| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
| . | . | . | . | . | 1 | 2 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |

### October

| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | . | . | . | . |

### November

| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
| . | . | . | 1 | 2 | 3 | 4 |
| 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 19 | 20 | 21 | 22 | 23 | 24 | 25 |
| 26 | 27 | 28 | 29 | 30 | . | . |

### December

| S | M | T | W | T | F | S |
|---|---|---|---|---|---|---|
| . | . | . | . | . | 1 | 2 |
| 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 | 21 | 22 | 23 |
| 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| 31 | . | . | . | . | . | . |

WORKSHEET

## LESSON PLAN FORMAT

**Title:**

**Grade Level:** **Subject Area:**

**Lesson Goal:**

**Lesson Objective(s):**

**Time Requirement:**

**Description of Activity:**

**Resources:**

- **Materials:**
- **People:**
- **Space/Equipment:**

**Evaluation:**

## KNOWLEDGE QUIZ

1. An example of an industry that is least likely to suffer a business downturn during a recession is:

   a. housing
   b. luxury boat sales
   c. nursing home operation
   d. automotive manufacturing

2. Low interest rates would probably be least important to the employment status of which worker?

   a. auto worker
   b. steel worker
   c. mason
   d. physician

3. Which local resource is most critical to further development in the West?

   a. water
   b. oil
   c. natural gas
   d. sunlight

4. The government decides to impose a tariff on certain imported items. This would primarily be done in order to:

   a. reduce the cost to consumers
   b. increase government revenue
   c. reduce the foreign trade deficit
   d. increase the price of the items

5. Employment in which industry is most affected by automation?

   a. housing
   b. nursing home operation
   c. security
   d. automotive manufacturing

6. Which worker is least affected by the increase in two-income families?

   a. dentist
   b. food counter worker
   c. auto worker
   d. day-care center worker

7. What item is least affected by the geographic location of a city?

   a. food costs
   b. utility costs
   c. number of household pets
   d. transportation costs

8. Which worker would probably have the least stable employment in Detroit, Michigan?

   a. supermarket clerk
   b. utility repairperson
   c. dentist
   d. auto worker

9. What is the major advantage of working in an area that has a diversified industrial base?

   a. more stable employment
   b. better restaurants
   c. lower rents
   d. higher pay

10. Which group in society was probably most affected by the dawn of the industrial age?

   a. scholars
   b. young children
   c. teachers
   d. working class

11. What is least descriptive of work during the agrarian era of the United States?

   a. physically demanding
   b. semiskilled or unskilled
   c. highly paid
   d. nonmechanical

12. In the near future, job prospects for two-year degree holders will probably:

   a. decline
   b. remain the same
   c. grow less than those for high school graduates
   d. increase

13. In general, automation of a production factory operation brings all of the following except:

   a. an increase in blue-collar workers
   b. safer working conditions
   c. cleaner working conditions
   d. higher productivity

14. In the future, retraining for older workers will probably become:

   a. insignificant
   b. less frequent
   c. less important
   d. more important

15. Changing technologies will probably mean that job requirements will change:

   a. less often
   b. more often
   c. only in manufacturing
   d. about the same as always

## FROM PAST TO FUTURE

1. What is most descriptive of work during the "agrarian era" of the US?
   - A. highly skilled
   - B. thought-provoking
   - C. very easy
   - D. manual in nature

2. Which worker will have the poorest job outlook in the "computer age"?
   - A. systems analyst
   - B. medical technician
   - C. factory production worker
   - D. manager

TRANSPARENCY MASTER V.III.1

## RELATED ACTIVITIES

The activities described below have been conducted in a school situation. They were identified through an extensive literature review and/or interviews with school personnel. Some of them were field tested prior to inclusion in the training package. These are starred, and detailed information is provided regarding them.

**Concept:** The nation's economic condition is constantly changing because of decisions made by businesses, consumers, and governments. Factors which affect national and local economies include changing technologies, business conditions, population patterns, consumer preferences, and availability of resources.

***Title:** Economic Awareness **Grade Level:** K **Subject Area:** Social Studies

**Instructional Objective:** The students will be able to describe how one's purchasing power relates to wages.

**Time Requirement:** Four 15-minute class discussions

**Learning Activity:**
1. The class discusses reasons why adults work and the teacher lists them.
2. The class discusses five uses of the money parents earn and the teacher lists them.
3. The class discusses "piggy banks" or allowance and how this is similar to money parents earn.
4. The class discusses the idea that you can purchase only what you have enough money to buy.

**Source:** *Career Education in the Elementary School: An Infused Approach*, Long Island University, C.W. Post Center, Hempstead, NY 11550, 1973.

***Title:** Economic Awareness **Grade Level:** 1 **Subject Area:** Math

**Instructional Objective:** The students will be able to explain the relationship between their "jobs" and their "purchases."

**Time Requirement:** At least several weeks **Materials:** Play money or tokens

**Learning Activity:**
1. The teacher lists a variety of daily classroom jobs (emptying baskets, cleaning chalkboards, etc.) and assigns arbitrary wages in either play money or tokens.
2. Each student chooses a job and performs it one day each week.
3. The teacher pays "wages" at the end of the week. (Student may be allowed more than one job if desired.)
4. The teacher sets up "store" containing small items which can be "purchased" by students with "wages."

**Source:** *Career Education in the Elementary School: An Infused Approach*, Long Island University, 1973.

***Title:** Pet Patrol **Grade Level:** 1 **Subject Area:** Reading

**Instructional Objective:** The students will be able to list three reasons why pet control protects humans and three reasons why it protects animals.

**Time Requirement:** Two 45-minute sessions **Materials:** Paper bags for hand puppets

**Learning Activity:**

1. A guest representing the animal humane shelter discusses the role of shelter and specifically the different aspects of animal control. The issues of both animal and human protection should be addressed. Also, the issue of household expenditures (taxes) being spent on government activities (the shelter) is discussed.
2. On a subsequent day, the students make hand puppets from paper bags to represent dogs and role-play possible scenes between dogs and dog-warden. Both licensed and stray dogs should be shown.
3. (Optional) Class takes trip to the local animal humane shelter.

**Source:** Watertown Public Schools (NY), E. Ellis. Adapted from *Career Education Resource Book*, E. Ellis, Watertown Public Schools, Watertown, NY 13601, 1980.

***Title:** Sidewalks **Grade Level:** 3 **Subject Area:** Social Studies

**Instructional Objective:** The students will be able to explain the relationship between personal household expenditures and government services.

**Time Requirement:** 45 minutes **Materials:** Story

**Learning Activity:**

1. The teacher reads the following story.
2. The class discusses the points made in the story.
3. The class discusses related personal experiences.

**Story**

"All the residents of Maryland Street wanted to have sidewalks built along the street. Individual people could not afford to have sidewalks built themselves. Together they went to the mayor and asked that the city pay for the sidewalks. The mayor said the city could only afford to put a sidewalk on one side of the street; but, the street department would have time to do both sides of the street if money was available."

Now, what is the problem on Maryland Street? Yes, Jim, the residents want sidewalks on both sides of their street and the city can afford to do only one side. What else? Yes, Sara, neither individuals nor the city can afford the sidewalks on both sides. What can they do? (Have the city put in the one side.) Now assuming the people along Maryland Street are working together, what ways can they get a sidewalk on the other side of the street? (People on both sides of the street could all contribute money in order to have the other side completed; they could go to a bank and borrow the money; or, they could get together, purchase the raw materials, and build their own sidewalk as a community project.)

If they choose to contribute money themselves, how can they raise it? (The neighborhood residents could hold a rummage or sidewalk sale, a baked goods sale, or a raffle. They could do extra jobs and put that money into a neighborhood building fund. When there is enough money for the job, they can ask the mayor to have his street department put the sidewalk in.)

Who is really paying for the sidewalk that the city could afford to build? (Since tax dollars will be used to build the sidewalk, the city as a whole including the people on Maryland Street are paying for the sidewalk.)

Are people consumers when they use the sidewalk? (Yes, sidewalks provide a service to people who use them and when these services are used the people are consumers of them.)

**Source:** *Choice*, Educational Service Inc., Box 219, Stevensville, MI 49127, 1975.

**Title:** To Buy or Not to Buy **Grade Level:** 4-7 **Subject Area:** Math

**Instructional Objective:** Students will learn how price influences the amount that people will buy and what, besides the price might change that amount. Also, students will describe a demand graph and explain how it would change if people's incomes increased.

**Learning Activity:** Class discusses the following about any product: market demands, advertising, changes in people's taste and incomes, and changes in the prices of other goods. Students draw and interpret graphs to predict changes in demand of a product.

**Source:** *Trade Offs*, Agency for Instructional Television, Bloomington, IN, 1978.

**Title:** Choice **Grade Level:** 4-7 **Subject Area:** General

**Instructional Objective:** Students will be able to identify possible alternative uses of a limited resource, explain why a choice is inevitable when a limited resource has alternative uses and point out the opportunity cost of a personal choice.

**Learning Activity:** Class discusses the choices a group of boys and girls make when they receive a trip to an amusement park with a limited dollar amount to spend. Later, imagine that this same group sees a building under construction on the field where they played ball. Each child speculates about what is being built; movie theater, a fire station, an office building, or a gymnasium. They offer reasons for each choice but must realize that there is not enough land, labor, steel, and cement to construct everything they would like. Ask the students to decide what they would choose to build, and give reasons for their choices.

**Source:** *Trade Offs*, Agency for Instructional Television, 1978.

**Title:** How Could That Happen? **Grade Level:** 4-7 **Subject Area:** General

**Instructional Objective:** Students will be able to explain how a change in consumer purchases in one market can have unforeseen consequences in other markets, and predict how supply, demand, and market clearing price and quantity will affect one another in a specific situation involving two different markets.

**Learning Activity:** Students discuss how the following events would affect the supply, demand, price, and quantity of oranges sold. Severe storm destroys many Florida oranges; A newspaper story states that oranges may cause stomach disorders; more oranges are grown; and an apple blight causes the price of apples to increase. Also, have students respond to the following headlines: "NO END IN SIGHT FOR OIL SHORTAGE" by asking how would this affect the demand for clothes made of natural fibers? "SUGAR CROP DESTROYED" by asking, "What effect would this have on the sale of popcorn and other candy substitutes?"

**Source:** *Trade Offs*, Agency for Instructional Television, 1978.

***Title:** Food Prices **Grade Level:** 5 **Subject Area:** Social Studies/Math

**Instructional Objective:** The students will be able to discuss how food prices are affected by various factors.

**Time Requirement:** Several days

**Learning Activity:**

1. Students collect coupons that aid in reducing food cost and go grocery shopping with an adult once a week for three consecutive weeks.

2. Students then report orally on their experiences related to pricing of items.
3. A grocery store owner speaks to the class regarding pricing of items.

**Source:** *Career Education*, Hazard Schools, KY, 1973.

***Title:** Economic Awareness **Grade Level:** 6 **Subject Area:** Math

**Instructional Objective:** The students will be able to discuss factors which influence the economy.

**Time Requirement:** Several weeks **Materials:** Newspapers

**Learning Activity:**

1. Students graph the price fluctuation as advertised in newspapers of ten specific food items.
2. Class discusses the reasons for price fluctuation.

**Source:** *Career Education in the Elementary School: An Infused Approach*, Long Island University, 1973.

**Title:** Community Industries **Grade Level:** 6 **Subject Area:** English

**Instructional Objective:** The students will be able to define words related to the economy.

**Time Requirement:** 45 minutes

**Learning Activity:**

1. Teacher lists the vocabulary words on board.
2. Class discusses each word.
3. Each student uses all the words in written sentences.

The terms are the following:

**Demand**—what people want, ask for, need, or require. (If there weren't any demands for goods and services, there would be no occupations.)

**Efficiency**—a measure of the amount of output obtained from a given amount of input.

**Goods - Services**—the products that are created for people who exercise a great freedom of choice.

**Input**—the amount of resources, natural and human, used in producing a given amount of goods and services.

**Investment**—the purchase of a piece of property, a stock or bond yielding a possible income.

**Occupation**—one's principal business; his vocation.

**Output**—the amount of goods and services produced.

**Producers' Goods**—goods needed by producers to make consumer goods.

**Resources**—the things one must have in order to live.

A. **Natural**—land, sea, and air from which we obtain lumber, minerals, foodstuffs, and energy.
B. **Human**—the human beings who contribute their efforts.
C. **Capital**—the tools, machines, factories used in producing goods and services. Also means the money needed to buy all resources needed for production.

**Source:** *Career Awareness: A Teacher's Guide for Elementary Grade*, Arkansas Department of Education, 1972.

**Title:** Math and Business Procedures **Grade Level:** 6-8 **Subject Area:** Math

**Instructional Objective:** Students will be able to demonstrate an understanding of the relationship of math to business procedures and operations.

**Materials:** Game: "Careers," Pamphlet: "Your Own Business," Careers in Depth Series, Richard Rosen Press, Inc.

**Learning Activity:** Students will select a product and "market" it. Class discusses "how a business is started and what is sold." They interview parents and local business people about possible products; and discuss company "stock," officers, and finance related to manufacturing a product. Students divide into teams for advertising, selling, and bookkeeping and discuss the ways profits will be spent.

**Source:** *Career Education Curriculum Guide*, Indiana Department of Public Instruction, 1973.

**Title:** Business Decisions **Grade Level:** Elementary **Subject Area:** Social Studies

**Learning Activity:** Class simulates a marketing study to teach students how businesses decided what to market.

**Title:** Product Pricing **Grade Level:** Elementary **Subject Area:** Math

**Learning Activity:** Class operates a business and calculates price of a product.

**Title:** Labor Unions **Grade Level:** Secondary **Subject Area:** Social Studies

**Learning Activity:** Students study labor unions influence on occupations and the economy.

**Title:** Business Cycle **Grade Level:** Secondary **Subject Area:** Social Studies

**Learning Activity:** Class discusses the business cycle and its affects on the labor market and economy.

**Title:** Personal Money Management **Grade Level:** Secondary **Subject Area:** Social Studies

**Learning Activity:** Students study the relationship between personal money management and the economic system.

**Title:** Recessions **Grade Level:** Secondary **Subject Area:** Social Studies

**Learning Activity:** Students study how recessions influence the economy.

**Title:** Inflation **Grade Level:** Secondary **Subject Area:** Social Studies

**Learning Activity:** Students study the effects of inflation on the economy.

**Concept:** A community's local economic condition is determined by the nature of its population, climate, geographic location, resources, and mix of industries.

***Title:** Economic Awareness **Grade Level:** 6 **Subject Area:** Science

**Instructional Objective:** The students will be able to describe those weather factors which influence the economy.

**Time Requirement:** Several days **Materials:** Daily newspapers

**Learning Activity:**

1. Students keep track of the weather over several days.
2. Students compile a list of occupations and industries affected by the weather (e.g., farming, winter restarts).
3. Students write descriptions of how the weather affects the economy.

**Source:** *Career Education in Schalmont*, Schalmont Central Schools, 401 Duanesburg, Schenectady, NY 12306, 1980.

**Title:** Interdependence of Workers **Grade Level:** Secondary **Subject Area:** Social Studies

**Learning Activity:** Students study the interdependence of workers in a community and how that affects the economic system.

**Title:** Weather Forecasting **Grade Level:** Secondary **Subject Area:** Science

**Learning Activity:** Students study the importance of accurate weather forecasting to the economy.

**Concept:** Technological change affects the job security of workers and the skills required of workers. Real wages increase as productivity increases.

**Title:** Learning and Earning **Grade Level:** 4-7 **Subject Area:** General

**Instructional Objective:** The students will be able to discuss the advantages and disadvantages of investing in human capital, how education and training is one way of increasing productivity, and evaluate the consequences of investing in human capital in terms of specific goals.

**Learning Activity:** Class discusses businesses in the community that have failed. They simulate an investment decision, such as the cost to an accounting firm hiring a student to solve multiplication problems by hand versus the student using a calculator. Students provide examples of someone they know who has invested in further training and discuss advantages and disadvantages of this training, it is paid off or not. Did these people need to go back to school to keep their jobs, etc.

**Source:** *Trade-Offs*, Agency for Instructional Television, 1978.

**Title:** Technology **Grade Level:** Elementary **Subject Area:** Language Arts

**Learning Activity:** Students write essays on how they think technology will change society and occupations.

**Title:** Productivity **Grade Level:** Elementary **Subject Area:** Social Studies

**Learning Activity:** Class discusses the topic of productivity.

**Title:** Technological Change **Grade Level:** Secondary **Subject Area:** Social Studies

**Learning Activity:** Students study the affect of technological change on different occupations.

**Title:** Technological Changes in Drafting **Grade Level:** Secondary **Subject Area:** Drafting

**Learning Activity:** Students study the changes in drafting occupations due to technological advances.

**Title:** Computers Cause Changes **Grade Level:** Secondary **Subject Area:** Math, Science

**Learning Activity:** Students study use of computers to determine how they have changed various occupations.

**Concept:** All of the previous concepts.

**Title:** Economy Crossword Puzzle **Grade Level:** Elementary **Subject Area:** Language Arts

**Learning Activity:** Teachers develop crossword puzzles that use words related to economic concepts.

**Title:** Store Operation **Grade Level:** Elementary and Secondary **Subject Area:** General

**Learning Activity:** This activity has many variations ranging from role playing to actual business. Students establish a corporation and can involve the community.

**Title:** Matching Games **Grade Level:** Elementary **Subject Area:** Language Arts

**Learning Activity:** Teachers develop definition and word matching activity with words related to the economy.

# EVALUATION TECHNIQUES

Prior to the workshop, the instructor should administer the Competency Opinionnaire (pre-workshop) to determine how competent the participants think they are in the topics to be taught. The Opinionnaire (post-workshop) is to be administered again at the end of the workshop to identify the level of competency growth. The instructor also should make specific observations during the workshop activities to measure attainment of the performance objectives. An additional instrument is designed to obtain data on the effectiveness of the workshop techniques.

The following questionnaires relate to this module. When more than one module is being taught, the instructor can develop a comprehensive pre-workshop and post-workshop competency opinionnaire that addresses all of the modules.

## ASSESSING PARTICIPANTS' MASTERY OF PERFORMANCE OBJECTIVES

The instructor's outline suggests activities that require written or verbal responses. The following list of performance indicators will assist you in assessing the quality of the participants' work.

**Module Title:** Understanding America's Economy

**Module:** V

| Major Activities | Performance Indicators |
|---|---|
| Learning Experience I | |
| 1. Completing worksheet titled "Population and Local Economy" | 1. Did the majority of participants provide logical answers to the worksheet's questions? |
| 2. Completing worksheet titled "Location and Economy" | 1. Did the majority of participants logically complete the graphs? |
| 3. Identifying "recession-proof" occupational clusters | 1. Were the participants able to identify at least fifteen occupational clusters that could weather a recession? |
| 4. Locating local economy references in the *OOH* | 1. Were participants able to locate at least three references to the local economy in the *OOH*? |
| 5. Developing an infused lesson | 1. Were participants able to follow the infusion process?<br>2. Did activities relate to the concept? |
| Learning Experience II | |
| 1. Completing worksheet titled "Hometown versus Another Town" | 1. Were the majority of participants able to analyze the economic differences between their communities and others? |
| 2. Completing worksheet titled "National/Local Economy" | 1. Were the majority of participants able to relate national economic trends to their local economy? |
| 3. Completing worksheet titled "Governments' Role in the Economy" | 1. Were the majority of participants able to identify at least five examples of roles of local and national governments? |

| Major Activities | Performance Indicators |
|---|---|
| Learning Experience II | |
| 4. Discussing how business cycles, population patterns, and consumer preferences affect the economy | 1. Were the majority of participants able to complete logically the graph in the worksheet "Hypothetical Business Cycles"? |
| 5. Locating economic issues in the *OOH* | 1. Was each small group able to locate at least five places in the *OOH* where economic issues were represented? |
| 6. Developing an infused lesson | 1. Were participants able to follow the infusion process?<br>2. Did activities relate to the concepts? |
| Learning Experience III | |
| 1. Discussing changing technology's effect on jobs | 1. Were participants able to provide examples of—<br>a. jobs threatened by technology,<br>b. jobs that have become more demanding in terms of education/training requirements, and<br>c. items that have decreased in cost because of improved productivity? |
| 2. Debating automation | 1. Were participants able to defend their positions in the debate? |
| 3. Role playing | 1. Were participants able to describe the impact of economic changes on their occupations/industries? |
| 4. Locating references to changing technology in the *OOH* | 1. Were participants able to locate in the *OOH* at least two occupations that have been changed by technology? |
| 5. Developing an infused lesson | 1. Were participants able to follow the infusion process?<br>2. Did activities relate to the concept? |

## COMPETENCY OPINIONNAIRE

**Directions:** For each statement that follows, assess your present competency. For each competency statement, circle one letter.

---

### YOUR COMPETENCE

---

Assess your present knowledge or skill in terms of this competency statement:

---

a. Exceptionally competent: My capabilities are developed sufficiently to teach this competency to other people.

b. Very competent: I possess most of the requirements but can't teach them to other people.

c. Minimally competent: I have few requirements for this competency.

d. Not competent: I cannot perform this competency.

| COMPETENCY STATEMENTS (PRE-WORKSHOP) | COMPETENCE (circle one) | | | |
|---|---|---|---|---|
| 1. Explain how characteristics of a community can affect its economic conditions. | a | b | c | d |
| 2. Describe an activity that infuses into your curriculum the idea that local economic conditions are influenced by the characteristics of the community. | a | b | c | d |
| 3. Explain how decisions made by and factors related to businesses, consumers, and governments affect the nation's economic condition. | a | b | c | d |
| 4. Describe an activity that infuses into your curriculum the idea that economic changes relate to decisions and factors associated with various groups. | a | b | c | d |
| 5. Provide examples of how technological changes affect the job security of workers and the skills of workers. | a | b | c | d |
| 6. Describe an activity that infuses into your curriculum the idea that technological changes affect the job security and skills of workers. | a | b | c | d |

| COMPETENCY STATEMENTS (POST-WORKSHOP) | COMPETENCE (circle one) |
|---|---|
| 1. Explain how characteristics of a community can affect its economic conditions. | a b c d |
| 2. Describe an activity that infuses into your curriculum the idea that local economic conditions are influenced by the characteristics of the community. | a b c d |
| 3. Explain how decisions made by and factors related to businesses, consumers, and governments affect the nation's economic condition. | a b c d |
| 4. Describe an activity that infuses into your curriculum the idea that economic changes relate to decisions and factors associated with various groups. | a b c d |
| 5. Provide examples of how technological changes affect the job security of workers and the skills of workers. | a b c d |
| 6. Describe an activity that infuses into your curriculum the idea that technological changes affect the job security and skills of workers. | a b c d |

HANDOUT

## WORKSHOP EFFECTIVENESS—MODULE V

NAME (Optional)____________________ TITLE____________________

INSTITUTION________________________________________

ADDRESS__________________________ TELEPHONE____________

1. To what extent were the materials, processes, and organizational aspects of the module successfully used in the presentation and delivery of the module. For those materials, processes, or organizational aspects that you marked as "unsuccessful" or "slightly successful," provide brief comments as to how they might be improved.

| Success | | | | Materials/Processes | Comments |
|---|---|---|---|---|---|
| Unsuccessful | Slightly | Moderately | Very Successful | | |
| | | | | **Materials** | |
| 1 | 2 | 3 | 4 | Handouts/Worksheets<br>Transparencies | |
| | | | | **Processes** | |
| 1 | 2 | 3 | 4 | Lecture Presentations | |
| 1 | 2 | 3 | 4 | Large Group Discussions | |
| 1 | 2 | 3 | 4 | Small Group Sessions | |
| | | | | **Organizational Aspects** | |
| 1 | 2 | 3 | 4 | Module Organization in Terms of the Logical Flow of Ideas | |
| 1 | 2 | 3 | 4 | Important Concepts Reinforced | |
| 1 | 2 | 3 | 4 | The Mix of Activities Helpful in Maintaining Interest | |

2. Indicate those aspects of the module that you liked most and those that you liked least.

| Liked Most | Comments |
|---|---|

| Liked Least | Comments |
|---|---|

3. SUGGESTIONS: Please provide suggestions or comments that you have for improving the workshop, workshop materials, and so on.

## RESOURCES

The materials listed below provide additional information on economy issues.

*Consumers in an ERA of Shortages and Inflation*. Karen Hull, Ed. American Council on Consumer Interests, Columbia, Missouri, 1975.

This document contains abstracts or manuscripts of twenty-nine presentations examining the problem of how to cope with inflation and how best to deal with resource shortages, both of which might become even more acute in the future.

*An Economic Course for Elementary School Teachers. Second Revised Edition*. Hugh Lovell and Charlotte Harter. Joint Council on Economic Education, New York, New York.

This handbook is intended to demonstrate to classroom teachers how to teach economics to children, grades 1-9. Teachers enrolled in the course carry out their own pupil activities which teach economy ideas. These activities include problem solving, case studies, skits, making posters, viewing of films, and role playing. The teachers write a brief description of the concept the activity teaches and the teaching techniques used and share their experience with the activities in group discussion.

*Economic Decision-Making*. Donald P. Vetter and others. Carroll County Public Schools, Board of Education of Carroll County, Westminster, Maryland, 1977.

This unit helps ninth grade students analyze alternative choices in consumer decision situations and defend the selections; evaluate information and make decisions about what to produce, how to produce, and for whom to produce when making a product to sell; and analyze the interrelationships of producers, consumers, and government, in national and international economic situations. Three parts contain lessons which are inquiry-oriented and are based on student activities. Each lesson contains a stated purpose, a classroom procedure, suggested materials, and activities. Resource pages for activities are included.

*The Economics of Aging: A Guide for Independent Study*. George Dawson. State University of New York, Center for Business and Economic Education, Old Westbury, New York, 1981.

The major portion of this publication contains a bibliography of resources which students can utilize in a study of the economic problems of aging. For example, it is suggested that students might make a thorough study of retirement planning, do research on the housing situation of the elderly, or examine the programs of their state and local governments pertaining to the aged. The bibliography that follows cites books, journals, newsletters, monographs, special reports, directories, and a few select journal articles. Also included is a list of both public and private agencies and organizations with various kinds of programs for the elderly. The appendix contains a paper entitled "The Problems of the Older Worker: Factors that Affect Employment Status."

*An Educator's Guide to the Three Es: Energy, Ecology, Economics.* Sally R. Campbell. Terry J. Finlayson, Sears, Roebuck and Co., Chicago, Illinois, 1978.

The booklet presents concepts, generalizations, background information, and learning activities for use in elementary and secondary school programs on energy, ecology, and economic issues. Major objectives of the resource guide are to help students understand problems related to the energy situation and to promote constructive changes in attitude and behavior in dealing with the energy challenge. Learning activities involve students in discussing key concepts such as fuel supplies and energy policies; defining terms; taking multiple-choice tests; writing research papers; identifying conservation measures; devising steps to implement energy conservation; participating in group projects; drawing cartoons, posters, and energy timelines; debating energy policies; and setting up water and energy saving guidelines. Grade level is identified for each learning activity.

*Energy: A Critical Decision for the United States Economy. Revised Edition.* Samuel M. Dix. Energy Education Publishers, Grand Rapids, Michigan, 1977.

This publication provides a basic analysis of the nation's energy status and attempts to relate a realistic projection of the future. It projects available alternatives to a total economic collapse considering the lack of a national energy policy at the time of writing. The three parts of this publication examine the energy dilemma, present petroleum and natural gas supply information, and suggest the future outcome of the energy crisis for the United States. The energy outlook presented in this book is not an optimistic one.

*Industrialization of Rural Areas: Recent Trends and the Social and Economic Consequences.* Brady J. Deaton. Southern Rural Development Center, State College, Mississippi, 1979.

This publication indicates that there is no present consensus regarding long-term consequences of rural industrialization on society. Since 1950, smaller rural communities in the south and southwestern United States have gained in industrialization due to their generally low-wage nonunion labor supply and lower tax structure, both attractive to industry seeking greater profits. The aggressive state and promotional leadership in the south along with federal, state, and local subsidies have proven that even very small communities can attract industry if they are eager to do so and prepared enough to deal positively with the mixed social and economic consequences. The solution to the question of a changing rural social structure lies not in unguided rural industrialization but in a purposive set of policy alternatives based on community values and goals.

*Teachers Guide to Economic Concepts: Grades K-3, 4-6, 7-9, and 10-12.* Milo F. McCabe. South Dakota Council on Economic Education, University of South Dakota, Vermillion, South Dakota, 1975.

This series of five guides aids teachers in helping students to achieve a high degree of economic literacy. These guides were prepared to assist school teachers, preservice students, and others interested in economic education with the identification and location of important economic concepts that are contained in the vast array of teaching materials and tests available in the social studies, and gives suggestions as to how these concepts might be taught at different grade levels.

*Teachers Guide to Man and the Economic Society: A Social Studies Curriculum Supplement.* Milo F. McCabe. South Dakota Council on Economic Education, University of South Dakota, Vermillion, South Dakota, 1975.

Endeavoring to reach a goal of economic literacy, this K-12 economic resource guide provides the teacher with a context, concepts, and content about the economics of American society and the study of economics in general. This resource guide presents eight economic units: man and his environment; socialization of man; economic society; a social institution; economic system or market; consumption function and the product market; the production function and the factor market; modifications of the market mechanism; and measuring and determining the performance of the economic system: growth and stability. Each unit includes a description of the context, a list of economic concepts related to the topic, and detailed outlines of the content areas. Short histories of money and banking in appendices conclude the guide.

*Work, Employment, and the New Economics.* Marvin Feldman. National Center Publications, The National Center for Research in Vocational Education, The Ohio State University, Columbus, Ohio, 1981.

This paper discusses how we are witnessing an historic shift in our approach to employment policy that will have profound implications for educators. This shift is most recognizable in the waning influence of demand-side economics and the ascendence of supply-side economics. Recent indications are that public policy is no longer firmly committed to maintaining full employment. The principles of keynesian or demand-side economics (which assert an inverse in light of recent economic and political developments). Demand-side policies were built on the idea that the American economy was mature and has used its capacity for growth. In reality, America is on the edge of a technological revolution. Studies on entrepreneurship education and its effectiveness are needed.

## INTRODUCTION

This module addresses two concepts that are designed to enable teachers to help their students explore various career options. By referring to concepts previously discussed in other modules, presenters can use this module as a summary chapter for the entire training package. The individual presenters, of course, must determine which references are appropriate for their groups.

**CATEGORY:** Career Exploration

**KEY CONCEPTS:**

1. An understanding of personal attributes, including interests, abilities, work values, training, and experience, is important in occupational choice.

2. An understanding of occupational characteristics, including the nature of the work, job outlook, earnings, working conditions, required training, other job qualifications, and advancement opportunities, is important in occupational choice.

**COMPETENCIES:** After the completion of this module, workshop participants (teachers of various subjects) will be better able to—

1. explain how knowledge of personal attributes can improve occupational choice;

2. describe an activity that infuses into their curricula information on understanding personal attributes as they relate to occupational choice;

3. explain how knowledge of occupational characteristics can improve occupational choice; and

4. describe an activity that infuses into their curricula information on understanding occupational characteristics as they relate to occupational choice.

## LEARNING EXPERIENCE I

## PERSONAL ATTRIBUTES

**KEY CONCEPT:** An understanding of personal attributes, including interests, abilities, work values, training, and experience, is important in occupational choice.

**COMPETENCIES:** Workshop participants will be better able to—

1. explain how knowledge of personal attributes can improve occupational choice and
2. describe an activity that infuses into their curricula information on understanding personal attributes as they relate to occupational choice.

**PERFORMANCE OBJECTIVE:** Workshop participants will develop an infused lesson that uses information from the *Occupational Outlook Handbook* and relates to the above concept.

---

**OVERVIEW:** Understanding personal attributes is particularly important for making wise career decisions. This learning experience focuses on a person's self-understanding. Participants will engage in a self-analysis activity.

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| | | |
|---|---|---|
| **INSTRUCTOR'S INFORMATION:** | Time | 90 minutes |
| | Workshop Resources | *Occupational Outlook Handbook* (1982-83 edition)<br>**Worksheet Masters**<br>Interests and Abilities Graphs—page VI-11<br>Personal Career Ladder—page VI-12<br>Career Ladders—page VI-13<br>Role Play Cards—page VI-14<br>Model Lesson Plan—page VI-15<br>Lesson Plan Format—page VI-16<br>**Transparency Masters**<br>Personal Ability—page VI-17<br>Work Values—page VI-19<br>Training and Experience—page VI-21 |
| | Instructional Methods | Group discussion<br>Individual activities |

| Instructor's Outline | Notes |
|---|---|
| I. Introduction of Learning Experience | |
| A. Discuss the purpose of this experience—to explore careers from the standpoint of an individual's characteristics. | Administer the pre-workshop portion of "Competency Opinionnaire" found on page VI-54. |
| B. Use transparency VI.I.1 to introduce this learning experience. The answer to the item shown is "B" because "A" and "C" are physical characteristics and "D" is an interest. | Show transparency VI.I.1—"Personal Ability"—found on page VI-17. |
| C. Emphasize that this entire learning experience will explore personal characteristics from the standpoint that when exploring careers, individuals should first understand themselves. This learning experience is designed to explore basic personal traits that it is important to analyze for self-understanding. | |
| II. Exploring Personal Attributes | |
| A. Explain that occupational choice is improved by an understanding of personal characteristics. Satisfaction in a career is usually the result of fairly close agreement between personal attributes and job characteristics. | |
| B. Have participants give three examples of how personal attributes might relate to job requirements. For example, a person who speaks three languages might be a good travel agent or tour guide. | List attributes on a chalkboard or large sheet of paper. |
| III. Personal Interest and Abilities | |
| A. Indicate that personal interests are those things a person enjoys doing or would like to do. For example, some people like working with their hands (e.g., sewing, building, drawing). | |
| B. Explain that personal abilities are those skills in which a person can perform well. For example, a person may be good at drawing caricatures of friends. | |
| C. Point out that people are often interested in the things they have the ability to do well, but this is not always the case. For example, a person may possess the finger dexterity needed by pianists but be uninterested in music. | |

| Instructor's Outline | Notes |
|---|---|
| D. Discuss the idea that in career exploration or career decision making, personal interests and abilities should be considered, but that it is impossible to have a direct match between personal interests and abilities and job requirements. | |
| E. Have each participant complete an interests/abilities chart. | Distribute worksheet—"Interests and Abilities Graphs"—found on page VI-11. |
| 1. Explain that this is not a complete list of interests and abilities but rather that this exercise is designed to make participants aware of the process involved when exploring personal attributes. | |
| 2. Discuss the various assessment instruments currently available to do this. | See "Resources" on page VI-59 for descriptions of instruments. |
| 3. When participants have completed their graphs, conduct a brief discussion to discover whether any participants were surprised by their graphs. | |
| IV. Personal Work Values | |
| A. Introduce this section by discussing transparency VI.I.2. | Show transparency VI.I.2—"Work Values"—found on page VI-19. |
| 1. The answer to item 1 on the transparency is "D" because all other choices are personal work values. | |
| 2. The answer to item 2 is "D" because it would be difficult to receive high pay without having any responsibility. | |
| B. Explain that personal work values are important in relation to career exploration. | |
| 1. People derive work satisfaction in different ways. For example, some people prefer to plan and direct, while others prefer to work with direction. | |
| 2. An individual's work values can conflict with one another. For example, a desire for responsibility may conflict with a desire for the higher pay of a supervisory job. | |
| C. Have participants identify three work values and explore possible conflicts among them. | List work values on chalkboard or sheet of paper. |

| Instructor's Outline | Notes |
|---|---|
| D. (Optional Activity) Create a problem-solving circle by having participants do the following: | |

1. Sit in a circle.
2. One or two people present a work values problem from personal experience. An example is an industrial arts teacher who enjoys the mental rewards of teaching but whose family responsibilities indicate that it would be better to go into the construction business because of the higher pay.
3. Discuss the problem around the circle and try to arrive at solutions to the problem. Limit discussion to 15 or 20 minutes.

V. Training and Experience

A. Explain that training and experience are important personal attributes.

1. Training can include formal schooling, apprenticeship, or informal schooling.
2. Experience is paid, nonpaid, and volunteer work.

B. Explain that when exploring training requirements, a person should remember the following points:

1. Formal training—Entry requirements differ among training programs, and some programs are costly. For example, although there is a current demand for engineers, the competition for openings in engineering schools is very stiff, and the schools are expensive.
2. Apprenticeship—Competition for apprenticeships is often stiff, and there may be additional requirements, such as some formal schooling.
3. Informal training—Sources of informal training include service and avocational clubs and organizations. This form of training does not result in a degree, but does provide an individual with specialized skills.

| Instructor's Outline | Notes |
|---|---|
| C. Have participants identify various kinds of training and experience they have received.<br>1. Many teachers have a variety of training. Some are formal schooling and result in a degree such as BA, MA, or PhD, and others are informal and result in CPR or Red Cross Life Saver Certificates.<br>2. Similarly, many teachers have a wide variety of experience, both paid and volunteer. | List training and experience on chalkboard or large sheet of paper. |
| D. Have participants list their abilities, interests, personal work values, training, and experience and relate them to their current jobs. Stress that this is not meant to show participants that they are in the "perfect" occupation, but rather to provide an example of the career exploration process. | |
| E. (Optional Activity) Use transparency VI.I.3 as the basis for a wrap-up discussion of training, experience, and interest areas. This activity might be useful if participants have limited employment experience beyond teaching. Time should be taken to explore the many ways in which areas of interest can lead to job possibilities.<br>1. The answer to item 1 on the transparency is "B." The other choices are examples of training, even though a craft club is informal training. It should be pointed out that personal interests can lead to job training and eventually to jobs. For example, flower arranging learned at a garden club could eventually lead to a job in a florist shop.<br>2. The answer to item 2 is "D." Volunteer experience may tell a job interviewer something important about a prospective applicant. For example, the head of a small woodworking shop might hire a woodworker who is a volunteer fire fighter because that experience indicates knowledge of fire safety.<br>3. Participants should offer any personal comments related to training and experience. | Show transparency VI.I.3—"Training and Experience"—found on page VI-21. |

| Instructor's Outline | Notes |
|---|---|
| VI. Further Activities | |
| A. Have participants complete the worksheet "Personal Career Ladder." Point out the following: | Distribute worksheet—"Personal Career Ladder"—found on page VI-12. |
| 1. The idea of a career ladder is to show a progression from little experience and training to more experience and training, which results in better jobs. | |
| 2. Participants should select major career steps they have taken since leaving high school. | |
| B. Have participants share their career ladders and relate the information to the career development principles they discussed in Module I. | |
| C. (Optional Activity) Have participants create career ladders for the fictitious workers on the worksheet "Career Ladders." | Distribute worksheet—"Career Ladders"—found on page VI-13. |
| 1. Mention that there are no right or wrong answers for this activity but that participants should try to think of logical steps. | |
| 2. Discuss participants' answers, using the following possible responses for comparison: | |
| **Factory Supervisor**<br>Becomes factory supervisor<br>Completes advanced training<br>Becomes a journeyperson<br>Enters union program as apprentice<br>Works part-time in small machine shop<br>Graduates from high school | |
| **Businessperson**<br>Opens a radio and television franchise<br>Starts mail order business part-time<br>Receives associate's degree<br>Gets promotion to manager<br>Is hired as salesperson<br>Graduates from high school | |
| D. Have participants role-play various worker profiles and determine which occupations are suitable for the workers. | Use "Role Play Cards" found on page VI-14. These should be cut apart before the activity begins and placed on index cards. |

| Instructor's Outline | Notes |
|---|---|

1. Place the profile cards, facedown, into five piles:

   Interests
   Abilities
   Values
   Training
   Experience

2. Have participants choose a card from each category and describe themselves using the cards. This may require some inventiveness, as some cards may be contradictory.

3. Ask the group to respond to the information presented by each participant by suggesting possible occupations.

Use the *Occupational Outlook Handbook* to browse through and find occupations that call for those attributes.

4. Use the following as an example of what could happen:

   **Profile**
   Enjoys people
   Manually dextrous
   Wants to help people
   Two-year college graduate
   No experience

   **Possible Occupations**
   Hospital aide
   Social worker aide
   Recreation worker

VII. Personal Attributes and the *OOH*.

A. Indicate where the *OOH* discusses personal attributes.

1. The "How to Use" section discusses personal attributes in this learning experience. For example, the career ladder of drafters is discussed on page 3.

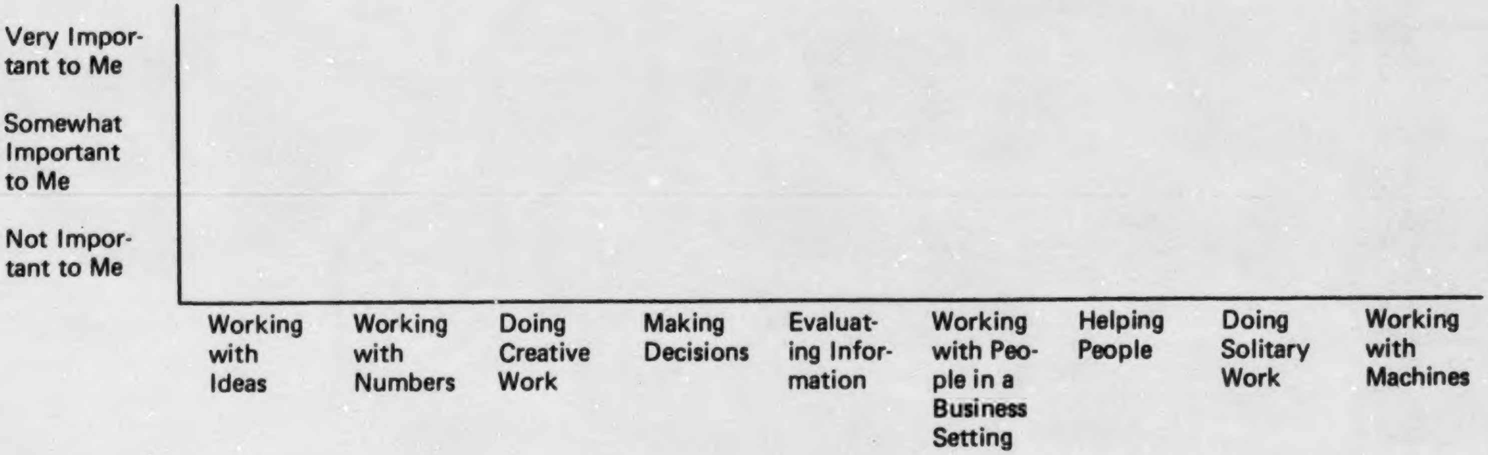
2. Each occupational discussion includes pertinent information related to personal attributes and covers such specifics as training requirements.

| Instructor's Outline | Notes |
|---|---|
| B. Ask participants to identify three occupations for each of the following categories: no training required, some training, and advanced training required. Read the section on page 2 of the 1982-83 *OOH* for details about these categories. | Use the *OOH*. |
| VIII. Infusion | |
| A. Have participants develop an activity that infuses into their curricula an idea presented in this learning experience. | Participants can work individually or in small groups.<br>Distribute "Model Lesson Plan" found on page VI-15.<br>Distribute "Lesson Plan Format" found on page VI-16. |
| B. Ask participants to share their ideas with the group. | |
| IX. Wrap-Up | |
| A. Indicate that in this learning experience, participants explored the personal characteristics an individual must consider when deciding upon an occupation. | |
| B. Mention that in the next learning experience they will explore characteristics of occupations. | |

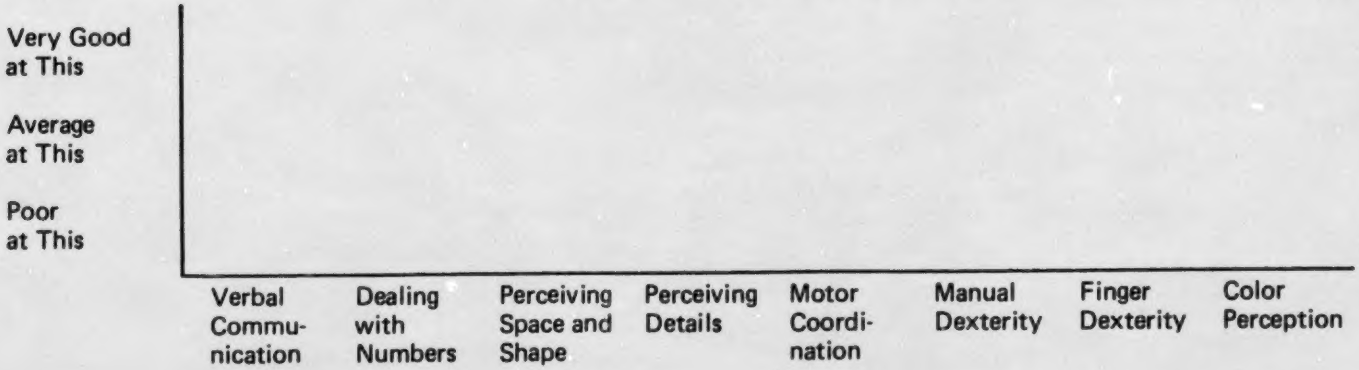
## INTERESTS AND ABILITIES GRAPHS

**Directions:** Place an X in the appropriate spot in each of the two graphs below. Connect the Xs.

### Interests

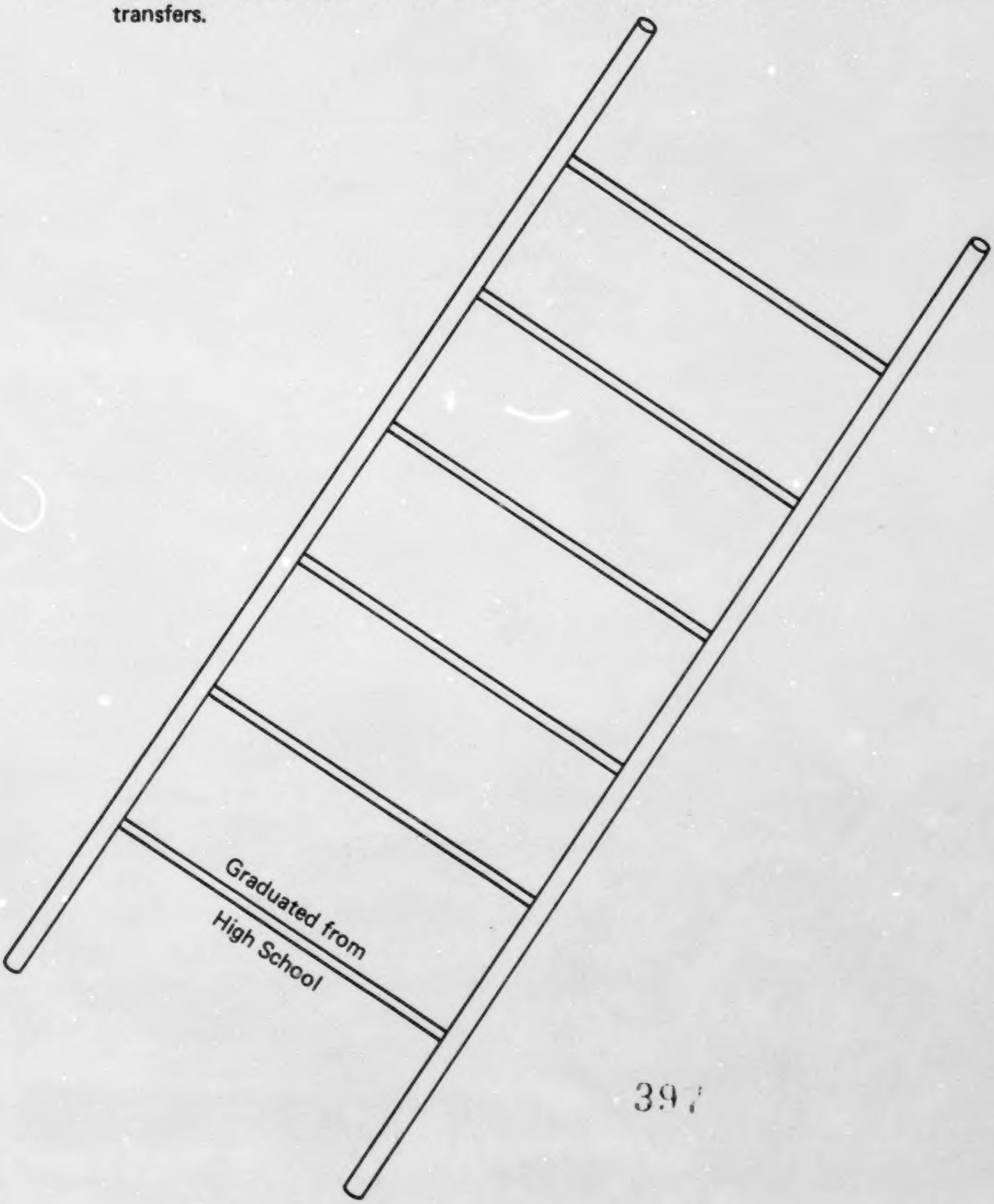


### Abilities



## PERSONAL CAREER LADDER

**Directions:** On the rungs of the career ladder, write brief statements that describe the major career steps that you have taken since high school. Include such activities as completing training (educational programs), obtaining major jobs, receiving promotions, or making transfers.



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## CAREER LADDERS

**Directions:** For each person below, fill in the missing rungs with logical steps in the career ladder.

| Chris<br>Factory Supervisor | Pat<br>Businessperson |
|---|---|
| | |
| Completes twenty hours of advanced union-approved training | Starts mail order business part-time |
| | |
| Enters union program as apprentice | Gets promotion to area sales manager |
| | |
| Graduates from high school | Graduates from high school |

## ROLE PLAY CARDS
(Cards May Have to be Reused)

**Interest Cards (cut on lines) Make a copy of this page and cut copy.**

| | | | |
|---|---|---|---|
| Enjoy People | Enjoy Solitude | Enjoy Detail | Enjoy Being Creative |
| Enjoy Numbers | Enjoy Machines | Enjoy Animals | Enjoy Business |
| Enjoy Being Subservient | Enjoy Decision Making | Enjoy Close Supervision | Enjoy the Outdoors |

**Ability Cards (cut on lines)**

| | | | |
|---|---|---|---|
| Manually Dextrous | Good with Spoken Word | Good with Written Word | Good with Numbers |
| Good with Details | Good with Facts | Good with Persuasion | Good with Colors |

**Worker Value Cards (cut on lines)**

| | | | |
|---|---|---|---|
| Want High Pay | Want High Responsibility | Want Little Responsibility | Want to Influence People |
| Want to Help People | Want Public Recognition | Want Close Supervision | Want Power |

**Training Cards (cut on lines)**

| | | | |
|---|---|---|---|
| Non-High School Graduate | High School Graduate | Two-Year College Graduate | Four-Year College Graduate |
| Trade School Graduate | Union Apprenticeship Graduate | Informal Training | On-the-Job Training |

**Experience Cards (cut on lines)**

| | | | |
|---|---|---|---|
| None | Two Years at Minimum Wage | Ten Years in Semi-skilled Position | Five Years in Skilled Position |

HANDOUT

## MODEL LESSON PLAN

**Title:** Self-Awareness

**Grade Level:** 3 **Subject Area:** Language Arts

**Lesson Goal:** The student will learn that an understanding of personal attributes, including interests, abilities, work values, training, and experience are important in occupational choice.

**Lesson Objective:** The student will be able to list three personal interests and three personal skills.

**Time Requirement:** Several 30 minute sessions

**Description of Activity:**

1. The teacher discusses the difference between interests and skills, and after the teacher lists five examples of each on the board, the students individually categorize each. (Example: Interest—enjoys music, skill—plays piano)
2. Each student lists three personal interests and three personal skills for him/herself.
3. The teacher divides the group into two groups; radio interviewers and interviewees.
4. The radio interviewers will pretend to interview citizens of a community for their interests and skills. Each interviewee has to supply at least three for each category.
5. The roles of interviewers and interviewees will then be reversed with the same activity.

**Resources:** None

**Evaluation:** Each student can recite three personal interests and three personal skills.

**Source:** *Career Education in Schalmont*, Schenectady, New York

# LESSON PLAN FORMAT

**Title:**

**Grade Level:** **Subject Area:**

**Lesson Goal:**

**Lesson Objective(s):**

**Time Requirement:**

**Description of Activity:**

**Resources:**

  **Materials:**

  **People:**

  **Space/Equipment:**

**Evaluation:**

# PERSONAL ABILITY

An example of personal ability is:

a. age
b. manual dexterity
c. health
d. reading for pleasure

TRANSPARENCY MASTER VI.I.1

# WORK VALUES

1. Which of the following is **not** an example of a personal work value:

    a. level of responsibility
    b. level of pay
    c. prestige
    d. job outlook

2. An example of a person with conflicting work values is one who wants:

    a. high pay and high responsibility
    b. low pay and no responsibility
    c. medium pay and some responsibility
    d. high pay and no responsibility

# TRAINING AND EXPERIENCE

1. All of the following are examples of training except:

    a. apprenticeships
    b. conviction record
    c. college degree
    d. craft club

2. What is **not** true of volunteer experience? It:

    a. can lead to formal training
    b. should not be mentioned in a job interview
    c. can be a valuable way of meeting potential employers
    d. should be a reflection of personal interests

## LEARNING EXPERIENCE II

## OCCUPATIONAL CHARACTERISTICS

**KEY CONCEPT:** An understanding of occupational characteristics, including the nature of the work, job outlook, earnings, working conditions, required training, other job qualifications, and advancement opportunities is important in occupational choice.

**COMPETENCIES:** Workshop participants will be better able to—

1. explain how knowledge of occupational characteristics can improve occupational choice and
2. describe an activity that infuses into their curricula information on understanding occupational characteristics as they relate to occupational choice.

**PERFORMANCE OBJECTIVES:** Workshop participants, during completion of this learning experience, will investigate five careers using the *Occupational Outlook Handbook* and will list occupational characteristics for each.

Each workshop participant will develop an infused lesson that uses information from the *Occupational Outlook Handbook* related to the above concept.

---

**OVERVIEW:** This learning experience summarizes the concepts contained in the *Occupational Outlook Handbook*, which deals with characteristics of specific jobs. It is similar to the previous learning experience except that it addresses occupational characteristics instead of personal attributes. The participants will develop an infused lesson plan.

---

**INSTRUCTOR'S INFORMATION:**

| | |
|---|---|
| Time | 60 minutes |
| Workshop Resources | *Occupational Outlook Handbook* (1982-83 edition)<br>**Worksheet Masters**<br>Model Lesson Plan—page VI-29<br>Lesson Plan Format—page VI-31<br>Knowledge Quiz—page VI-32 |

**Transparency Masters**
Occupational Characteristics—page VI-35
Exploring Careers in the *OOH*—page VI-37
Market Basket Fringes—page VI-39
Using the *OOH*—page VI-41

| | |
|---|---|
| Instructional Methods | Group discussion |

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| Instructor's Outline | Notes |
|---|---|
| I. Introduction of Learning Experience | |
| A. Discuss the purpose of this experience—to explore job characteristics as they are presented in the *OOH* and to relate previous concepts to this aspect of career exploration. | |
| B. Explain that after this learning experience, participants should have developed their ability to design personally useful infused lessons and should also have several lesson plans that can be used as a basis for further development. | |
| C. Use transparency VI.II.1 to introduce this learning experience. The correct answer to the question shown is "D" because the *OOH* does discuss all the aspects listed. | Show transparency VI.II.1—"Occupational Characteristics"—found on page VI-35. |
| II. Exploring Occupational Characteristics | |
| A. Introduce this section of the learning experience by using transparency VI.II.2. Explain that this learning experience will include an exercise in which participants will use the *OOH* in the manner a student might. | Show transparency VI.II.2—"Exploring Careers in the *OOH*"—found on page VI-37. |
| 1. The answer to item 1 on the transparency is "D" because all choices are examples of working conditions. Mention the fact that shift time and work days are working conditions. | |
| 2. The answer to item 2 is "C" rather than "D." While the "Job Outlook" section is always important, it should not be considered the most important when exploring careers. | |
| 3. The answer to item 3 is "A" because training requirements will become more important during the 1980s. | |
| B. Indicate that occupational choice is improved by understanding characteristics of specific occupations. Satisfaction in a career is usually typified by fairly close agreement between personal attributes and job characteristics. | Refer back to II, "Exploring Personal Attributes," in the last learning experience. Discuss this concept from the standpoint of job characteristics. |

| Instructor's Outline | Notes |
|---|---|
| C. Explain that one important job characteristic is the nature of the work. This term describes what is actually done in a particular job. For example, a bank teller handles money, deals with the public, and so on. | |
| D. (Optional Activity) Ask participants to list three examples of the "nature of the work" from one job each of them has held. Suggest that teaching not be used. Discuss the examples. | List "nature of work" examples on the chalkboard or a large sheet of paper. |
| E. Explain that another very important job characteristic is the job outlook. This refers to the likelihood of obtaining a job. | |
| F. Indicate that working conditions, as described in the "Occupations" section of the *OOH*, include such aspects of the work situation as environment, hours, dangers, and so on. | |
| G. (Optional Activity) Ask participants to list three examples of the working conditions on one job each of them has held. Suggest that teaching not be used. Discuss the examples. | List examples of working conditions on the chalkboard or a large sheet of paper. |
| H. Indicate that training, as described in the "Occupations" section of the *OOH*, includes the educational, experiential, and personal requirements of jobs. | Review discussion from the previous learning experience on training. |
| I. Ask participants to provide examples of jobs that are likely to require a higher level of training in the near future. | List on chalkboard or on paper. |
| J. Indicate that earnings in the "Occupations" section of the *OOH* includes both the general rate of pay and fringe benefits. | |
| 1. Use transparency VI.II.3 to introduce this discussion. The answer to the item on the transparency is "B" because the market basket approach will become more common for all workers. Explain that the market basket approach to fringe benefits allows employees to select a set number of benefits from a list. | Show transparency VI.II.3—"Market Basket Fringes"—found on page VI-39. |

| Instructor's Outline | Notes |
|---|---|
| 2. Point out that the market basket approach to fringes will become increasingly popular during the 1980s. This system allows workers to opt for the benefits that are personally most important, while allowing employers to cut costs. Thus, a worker already covered by a spouse's insurance might opt for more vacation time rather than health insurance. Also suggest that sick leave accrual systems are being replaced by straight sick leave to cut costs. Employees under these plans are allowed a specific number of absences per period—often one absence every six months. | |
| III. Using the *OOH* for Career Exploration | |
| A. Have workshop participants explore careers as their students would. Explain that this will be an actual experience in using the *OOH* and will draw upon previously discussed ideas. Emphasize that this is designed to give participants the opportunity to become thoroughly familiar with the use of the *OOH*. | |
| 1. Have each participant choose five occupations of personal interest. | |
| 2. Ask each participant, using transparency VI.II.4 as a guide, to discover the following information for each occupation:<br>Nature of the work<br>Job outlook<br>Working conditions<br>Training and other requirements<br>Earnings | Use transparency VI.II.4—"Using the *OOH*"—found on page VI-41. |
| B. Following individual completion of this activity, ask participants to discuss any interesting findings with the group. | |
| IV. Developing an Infused Lesson | |
| A. Ask participants to develop an activity that infuses into their curricula an idea presented in this learning experience. | Participants can work individually or in small groups.<br>Distribute "Model Lesson Plan" on page VI-29.<br>Distribute the "Lesson Plan Format" found on page VI-31. |

| Instructor's Outline | Notes |
|---|---|
| B. Ask a few participants to share their activities. | |
| C. Since this is the final lesson plan activity, it may be useful to use this as a modification session rather than for developing a new lesson plan. If participants have previously presented their plans, they might now present a modified plan according to prior input. | |
| V. Wrap-Up | |
| A. Ask participants if they have any questions. | |
| B. (Optional Activity) Administer the knowledge quiz on career exploration. Use discussion of the quiz to reinforce knowledge of the concepts presented in this module. Answers: (1) a, (2) a, (3) c, (4) d, (5) a, (6) a, (7) a, (8) d, (9) c, (10) d, (11) b, (12) c, (13) d, (14) a, and (15) b. | Distribute worksheet—"Knowledge Quiz"—found on page VI-32.<br>Administer the post-workshop portion of the "Competency Opinionnaire" found on page VI-54 and the "Workshop Effectiveness Form" found on page VI-56. |

**HANDOUT**

## MODEL LESSON PLAN

**Title:** Using the *OOH*

**Grade Level:** 10 **Subject Area:** General

**Lesson Goal:** The student will learn that an understanding of occupational characteristics, including the nature of the work, job outlook, earnings, working conditions, required training, other job qualifications, and advancement opportunities are important considerations in occupational choice.

**Lesson Objective:** The student will be able to list (for three jobs) occupational characteristics including nature of work, employment outlook, and earnings.

**Time Requirement:** One or two 45 minutes sessions—one study period

**Description of Activity:**

1. The teacher presents brief examples of the nature of work, places of employment, training employment outlook, earnings, and sources of additional information using the *Occupational Outlook Handbook*.
2. Each student lists three occupations of interest.
3. During study periods, each student completes the "Occupational Outlook Handbook Worksheet" for each of the three occupations.
4. (Optional) As a class project, students will create a class bulletin board display using the information discovered.

**Resources:**

**Materials:** Occupational Outlook Handbook Worksheet—*Occupational Outlook Handbook*

**Evaluation:** The student can use the *OOH* to find occupational characteristics for a specific job.

**Source:** Eugene Elis, Watertown Public Schools, Watertown, New York, 1980

## OCCUPATIONAL OUTLOOK HANDBOOK WORKSHEET

Select an occupation which you would like to find out more about. List below.

Occupation to be studied ______________________________________________

Using the *Occupational Outlook Handbook*, answer the items below.

1. Describe the nature of the work

______________________________________________

______________________________________________

______________________________________________

______________________________________________

2. Places of employment

______________________________________________

______________________________________________

3. Training and other qualifications

______________________________________________

______________________________________________

______________________________________________

4. Employment outlook

______________________________________________

______________________________________________

5. Earnings and working conditions

______________________________________________

______________________________________________

______________________________________________

6. Sources of additional information

______________________________________________

______________________________________________

______________________________________________

# LESSON PLAN FORMAT

**Title:**

**Grade Level:** **Subject Area:**

---

**Lesson Goal:**

**Lesson Objective(s):**

**Time Requirement:**

**Description of Activity:**

**Resources:**

- **Materials:**
- **People:**
- **Space/Equipment:**

**Evaluation:**

## KNOWLEDGE QUIZ

1. An example of a personal ability is:

    a. problem-solving skill
    b. weight
    c. age
    d. enjoyment of music

2. All of the following are examples of personal interests except:

    a. high IQ
    b. enjoying food
    c. liking solitude
    d. enjoying reading

3. Which of the following is not an example of a personal work value?

    a. level of human contact
    b. level of solitude
    c. job outlook
    d. level of responsibility

4. Job satisfaction is often the result of agreement between job characteristics and:

    a. personal interests
    b. personal abilities
    c. personal work values
    d. all of the above

5. An example of a person with conflicting work values is one who wants:

    a. high pay and no responsibility
    b. high pay and high responsibility
    c. low pay and no responsibility
    d. medium pay and some responsibility

6. Individuals who understand their interests and abilities are more likely to be:

    a. happy in a job
    b. underemployed
    c. overeducated
    d. discouraged workers

7. An example of informal experience is:

    a. garden club training
    b. CPR instructorship
    c. trade school
    d. correspondence school certificate

8. All of the following are examples of training except:

   a. garden club
   b. vocational school
   c. correspondence course
   d. age

9. In listing personal training and experience, one should strive for:

   a. exaggeration of ability
   b. minimizing of ability
   c. honesty in describing ability
   d. none of the above

10. Informal as well as formal training should be included on your resume because it:

   a. may impress the secretary
   b. will boost the salary offer
   c. shows your humane side
   d. may be helpful in providing useful information

11. Which of the following is not an example of working conditions?

   a. work area noise
   b. chance for advancement
   c. work area hazards
   d. cleanliness of work area

12. When using the *OOH*, the job outlook information usually is:

   a. not important
   b. only slightly important
   c. very important
   d. most important

13. Which aspect of an occupation is described in the *Occupational Outlook Handbook*?

   a. job outlook
   b. earnings
   c. working conditions
   d. all of the above

14. For most users in the 1980s, the "training requirements" section of the *OOH* will probably be:

   a. more important
   b. less important
   c. ignored
   d. useless

15. During the 1980s, the "market basket" approach to fringe benefits will probably become:

   a. extinct
   b. more common
   c. less common
   d. universal

# OCCUPATIONAL CHARACTERISTICS

Which aspect of an occupation is described in the **Occupational Outlook Handbook**?

A. job outlook
B. earnings
C. working conditions
D. all of the above

TRANSPARENCY MASTER VI.II.1

# EXPLORING CAREERS IN THE OOH

1. An example of working conditions is:

   a. work area noise
   b. shift time
   c. work area hazards
   d. all of the above

2. When using the **OOH**, the "Job Outlook" section always is:

   a. not important
   b. only slightly important
   c. very important
   d. most important

3. For most users in the 1980s, the "Training Requirements" section of the **OOH** will probably be:

   a. more important
   b. less important
   c. ignored
   d. useless

# MARKET BASKET FRINGES

During the 1980s, the "market basket" approach to fringe benefits is becoming:

A. less common
B. more common
C. common only for blue-collar workers

TRANSPARENCY MASTER VI.II.3

# USING THE OOH

Appliance Repairer (page 330, 1982-83 **OOH**)

| | |
|---|---|
| Nature of the Work -- | Repairs household appliances in shops or homes. Makes estimates and explains repairs to customers. |
| Job Outlook -- | Repair persons should have steady work as more labor saving appliances are used. |
| Working Conditions -- | Often works unsupervised in reasonably clean and pleasant conditions. Some driving is often required. |
| Training and Other Requirements -- | Most repair persons receive on-the-job training after some advanced schooling in two-year or trade schools. |
| Earnings -- | There are limited available data, but most inexperienced people start at $5 per hour and eventually receive $10 to $12 per hour. |

# RELATED ACTIVITIES

The activities described below have been conducted in a school situation. They were identified through an extensive literature review and/or interviews with school personnel. Some of them were field tested prior to inclusion in the training package. These are starred, and detailed information is provided regarding them.

**Concept:** Occupational choice is improved by an understanding of a number of personal attributes, including interests, abilities, work values, training, and experience.

***Title:** What Can I Do **Grade Level:** 3 **Subject Area:** Art

**Instructional Objective:** The students will be able to list five characteristics of themselves.

**Time Requirement:** Two 30-minute sessions **Materials:** Drawing supplies

**Learning Activity:**

1. The class discusses the concept of abilities.
2. Each student draws pictures of five animals that can do something better than other animals (cats climb trees, fish swim, etc.).
3. Each student lists five things he/she likes to do or can do well.

**Source:** *Career Education Resource Book*, Watertown Public Schools, NY 13601, 1980.

**Title:** Personality Assessment **Grade Level:** 3-5 **Subject Area:** Language Arts

**Instructional Objective:** Students will be able to identify different types of careers and relate these careers to their individual differences and interests.

**Learning Activity:** Students present storys about their adult lives, including their career choices. The students relate their present interests to the career choice mentioned in the fictitious story.

**Source:** *Career Education Curriculum Guide*, Indiana State Department of Public Instruction, 1973.

***Title:** Self Expression **Grade Level:** 6 **Subject Area:** Language Arts

**Instructional Objective:** The students will be able to identify characteristics regarding themselves.

**Time Requirement:** 60 minutes

**Learning Activity:**

1. The teacher suggests the following writing topics: (1) What I think about before I go to sleep, (2) I wish I were a . . ., (3) I'm bored, (4) My dreams, (5) Why I don't like tests, (6) Pain, (7) Happy thoughts, (8) Gloomy thoughts, (9) Losing my temper, and (10) How I feel about animals in a cage.

2. Students choose a topic and write a composition on it.
3. The class conducts a general discussion on the composition topics.

**Source:** *Career Awareness*, Owatonna, MN, 1973.

**Title:** Personality-Job Match **Grade Level:** 6-8 **Subject Area:** Art

**Instructional Objective:** Students will know what elements of their personalities will be important in finding happiness in a job.

**Materials:** Holland's Self-directed Search. Filmstrip: "Your Personality, The You Others Know," Guidance Associates, and Pamphlet: "Your Personality and Your Job," Science Research Associates.

**Learning Activity:** Class discusses personality and character traits along with possible matches for each personality or character trait. Students design a display representing their personality using pictures, poems, quotations, colors, etc.

**Source:** *Career Education Curriculum Guide*, Indiana State Department of Public Instruction, Indianapolis, IN, 1973.

**Title:** Physical Conditioning **Grade Level:** 6-8 **Subject Area:** Physical Education

**Instructional Objective:** Students will recognize that career fields and physical conditioning are interrelated.

**Learning Activity:** Students interview industrial nurses and medical personnel to find out the physical requirements of jobs and industrial job classifications. The class then develops a list of jobs which require yearly or periodic physical examinations.

**Source:** *Career Education Curriculum Guide*, Indiana State Department of Public Instruction, 1973.

**Title:** Life Style **Grade Level:** 6-8 **Subject Area:** General

**Instructional Objective:** Students will be able to identify five different factors influencing lifestyle and identify the relationship between economic income and lifestyle.

**Materials:** Game: "Life Career," Western Publishing Company, Inc., New York. Film: "Consumer Education Budgeting," Bailey Film Association.

**Learning Activity:** Class discusses the concept of lifestyles as they relate to people in the community, family budgets, allowances and how they are used, and how income is related to education and/or job training. Class conducts a poster contest on the theme "You Choose Your Lifestyle When You Choose Your Vocation."

**Source:** *Career Education Curriculum Guide*, Indiana State Department of Public Instruction, 1973.

***Title:** The Relation of Values and Needs to Career Choice **Grade Level:** 8 **Subject Area:** Language Arts

**Instructional Objective:** The students will be able to define their work values.

**Time Requirement:** One class period

**Learning Activity:**

1. Students complete the following work values chart.

**Work Values Chart**

Mark the proper columns.

| **Work Habits** | **High** | **Same as Others** | **Poor** |
|---|---|---|---|
| 1. I'm usually on time. | | | |
| 2. I usually work hard. | | | |
| 3. I'm usually neat. | | | |
| **Group Attitudes** | | | |
| 1. I cooperate with others. | | | |
| 2. I'm a reliable worker. | | | |
| 3. I have respect for others. | | | |
| **Personal Characteristics** | | | |
| 1. I am neat. | | | |
| 2. I am friendly. | | | |
| 3. I am confident. | | | |

**Source:** Board of Education, Cato-Meridan Central School, 1976.

**Title:** Interests-Abilities Assessment **Grade Level:** 9-10 **Subject Area:** Guidance

**Instructional Objective:** Students will be able to identify their interests and abilities as related to tentative career choices.

**Materials:** Interest Tests, Community Resource Directory

**Learning Activity:** Students take a battery of self-assessment tests followed by individual or group interpretation. (Optional) Students make on-the-job visits to occupations of their choice, develop a Community Resource Directory, and test their identified interests and skills by one or more of the following methods (a) working part-time, (b) shadowing workers, (c) pursuing hobbies, (d) on-job visitations and observations, and (3) simulated laboratory experiences.

**Source:** *Career Education Curriculum Guide*, Indiana State Department of Public Instruction, 1973.

**Title:** Calling Cards **Grade Level:** Elementary **Subject Area:** Social Studies, Art

**Learning Activity:** Students develop business cards advertising their talents.

**Title:** Matching Personal Traits and Occupations **Grade Level:** Secondary **Subject Area:** English

**Learning Activity:** Students read brief description of a person and then list that individual's talents and skills in relation to specific career possibilities.

**Learning Activity:** Class investigates physical skills needed in the following careers: recreation director, physical therapist, physical education teacher and coach, entertainment, iron workers, professional athletes, health club director and officials.

**Source:** *Career Education Curriculum Guide*, Indiana State Department of Public Instruction, 1973.

**Title:** Career Information **Grade Level:** 6-8 **Subject Area:** Language Arts

**Instructional Objective:** Students will be able to list several sources for obtaining, organizing, ranking, and investigating career information.

**Materials:** Occupational Exploration Kit by Science Research Associates and the *Occupational Outlook Handbook*.

**Learning Activity:** The class discusses pay, training, working conditions, etc. for careers related to school subjects. After talking with workers in various careers, the class compiles a list of workers' reactions about their career. Each student selects one career from a range of careers and develops a speech to explain to the class the various aspects of that career.

**Source:** *Career Education Curriculum Guide*, Indiana State Department of Public Instruction, 1973.

**Title:** Investigating Careers **Grade Level:** 6-8 **Subject Area:** Social Studies

**Instructional Objective:** Students will compare their personal versions of job specifications with career information obtained through research. Students will also recognize the value of investigating career interest.

**Learning Activity:** Each student selects any career and writes a descriptive list of job expectations they have about the job without references. They will then compare their expectations with the actual information determined from other sources such as magazines, newspapers, resource persons, and the *Occupational Outlook Handbook*.

**Source:** *Career Education Curriculum Guide*, Indiana State Department of Public Instruction, 1973.

***Title:** Career Awareness **Grade Level:** 7 **Subject Area:** Science

**Instructional Objective:** The students will be able to list the personality characteristics realted to public parks jobs.

**Time Requirement:** 45 minutes

**Learning Activity:**

1. The teacher leads a class discussion on jobs connected with public parks. Include discussion of possible duties and related personality characteristics.
2. Students list three reasons why or why not they are suited for parks jobs.

**Source:** *Career Education in Schalmont*, Schalmont Central Schools, 401 Duanesburg, Schenectady, NY 12306, 1980.

***Title:** Job Characteristics **Grade Level:** 9 **Subject Area:** English

**Instructional Objective:** After conducting research, the students will be able to report on the abilities, skills, personal characteristics, and training needed for a selected occupation.

**Time Requirement:** Several weeks

**Learning Activity:**

1. The teacher divides the class into small groups.
2. Each group selects a career/cluster and lists the jobs in the career cluster that are available in their geographic area.
3. Each student in each group selects on occupation from the career cluster and researches the abilities, skills, personal characteristics, and training necessary.

**Source:** *Career Education*, Hazard Schools, KY, 1973.

***Title:** Job Traits **Grade Level:** 10 **Subject Area:** English/Art

**Instructional Objective:** After interviewing workers, the students will be able to present traits needed to perform specific jobs and will design a poster illustrating the jobs.

**Time Requirement:** Several weeks **Materials:** Poster material

**Learning Activity:**

1. Students conduct interviews with workers and inquire about the educational requirements, skills, personal traits, and behavioral characteristics which their work dictates.
2. After completing three interviews, the students select one and present this information to the class in informal speaking-sharing sessions.
3. Students design posters or collages which illustrate the selected occupation.

**Source:** *Career Education*, Hazard Schools, KY, 1973.

***Title:** Job Traits **Grade Level:** 12 **Subject Area:** English

**Instructional Objective:** After conducting research, the students will be able to report on the pay scale, required training, and lifestyles of various careers.

**Time Requirement:** Several days

**Learning Activity:**

1. The teacher divides the class into small groups, each representing a different career cluster.
2. Each group creates its own visual display to reflect the careers chosen by its members.
3. The groups research the pay scale, required training, and lifestyle of three careers and report their findings to the class.

**Source:** *Career Education*, Hazard Schools, KY, 1973.

**Title:** Employment Security Office **Grade Level:** Secondary **Subject Area:** Social Studies

**Learning Activity:** Students take field trip to employment security office and review microfiche that contain employment information.

**Title:** Occupational Briefs **Grade Level:** Secondary **Subject Area:** English

**Learning Activity:** Students correct the grammar and punctuation in incorrectly written occupational briefs.

**Title:** Writing about Careers **Grade Level:** Secondary **Subject Area:** English

**Learning Activity:** Students write argumentative papers on career-related topics.

**Title:** Fictional Career Stories **Grade Level:** Secondary **Subject Area:** English

**Learning Activity:** Students write fictional stories on careers of their interest.

**Title:** Letter Writing **Grade Level:** Secondary **Subject Area:** English

**Learning Activity:** Students write letters to individuals in specific occupations.

**Title:** Working Caricatures **Grade Level:** Secondary **Subject Area:** Art

**Learning Activity:** Students draw caricatures of people working.

**Title:** Driving and Occupations **Grade Level:** Secondary **Subject Area:** Drivers' Education

**Learning Activity:** Students research careers in which driving is required.

**Title:** Law Enforcement **Grade Level:** Secondary **Subject Area:** Drivers' Education

**Learning Activity:** Students research careers in law enforcement.

**Title:** Foreign Language and Occupation **Grade Level:** Secondary **Subject Area:** Foreign Language

**Learning Activity:** Students research careers in which a foreign language is used or ones that use bilingual skills.

**Concept:** Both of the previous concepts.

**Title:** Science Careers **Grade Level:** 6-8 **Subject Area:** Science

**Instructional Objective:** Students will discuss a science-related career field that might be appropriate for them.

**Materials:** Documents related to science careers

**Learning Activity:** The class compiles a list of science-related jobs. Each student chooses a science-related job and prepares a written presentation explaining why it might be personally appropriate. The students present their reports to the class.

**Source:** *Career Education Curriculum Guide*, Indiana State Department of Public Instruction, 1973.

**Title:** Career Crossword Puzzle **Grade Level:** Elementary **Subject Area:** Language Arts

**Learning Activity:** Teacher develops crossword puzzles that use words related to career exploration concepts.

**Concept:** The nature of the work, job outlook, earnings, working conditions, training, other qualifications, and advancement are important considerations in occupational choice.

***Title:** Education Awareness **Grade Level:** 2 **Subject Area:** Language Arts

**Instructional Objective:** The students will be able to describe the education or training needed for five occupations.

**Time Requirement:** Two 30-minute sessions

**Learning Activity:**

1. The class discusses the necessity of training or education required for many jobs.
2. Students interview their parents to learn of the training requirements for parents jobs.
3. Each student presents findings to class, and teacher compiles list.
4. Each student picks out five occupations of interest and repeats to class the training or education required.

**Source:** *Career Education in the Elementary School: An Infused Approach*, Long Island University, C.W. Post Center, Hempstead, NY 11550.

***Title:** Social Workers **Grade Level:** 2 **Subject Area:** General

**Instructional Objective:** The students will be able to describe the training needed to become a social worker.

**Time Requirement:** One day **Materials:** Community social workers

**Learning Activity:**

1. Speakers (social workers) explain the special training they needed.
2. Class lists the training requirements.

**Source:** *Career Resource Guide*, North Bend School District 13, North Bend, IN.

**Title:** Fire Fighter **Grade Level:** K-2 **Subject Area:** Language Arts, Social Studies

**Instructional Objective:** Students will be able to state at least six characteristics that a fire fighter must possess, name two kinds of fire fighters and some of the duties of each, give two advantages and two disadvantages of the unusual work schedules of fire fighters, and name at least two activities a fire fighter is involved in while not on a fire run.

**Learning Activity:** The class plans and discusses a fire drill, discusses what a fire fighter does, develops a bulletin board around the theme "Life as a Fire Fighter," and role-plays possible experiences of a fire fighter and/or use hand puppets. Class has a fire drill and visits a fire station.

**Source:** *Career Education Curriculum Guide*, Indiana State Department of Public Instruction, 1973.

**Title:** Physical Requirements **Grade Level:** 6-8 **Subject Area:** Physical Education

**Instructional Objective:** Students will identify the variety of present and future career opportunities in the field of physical education and health that have specific physical requirements.

**Title:** Matching Games **Grade Level:** Elementary **Subject Area:** Language Arts

**Learning Activity:** Teacher develops definition and word matching activity with words related to career exploration. Also, careers and associated equipment can be matched.

**Title:** Balloon Day **Grade Level:** Elementary **Subject Area:** General

**Learning Activity:** Students launch helium balloons with weather protected postcards which ask the finder to send the cards back after filling out job-related questions. When cards are returned, the class holds discussions on the responses.

**Title:** Nontraditional Jobs **Grade Level:** Elementary **Subject Area:** General

**Learning Activity:** Students role playing nontraditional jobs for their sex to help overcome sex role stereotyping.

**Title:** Dress-up **Grade Level:** Elementary **Subject Area:** Language Arts

**Learning Activity:** Students dress as workers in occupations that interest them and give presentations.

# EVALUATION TECHNIQUES

Prior to the workshop, the instructor should administer the Competency Opinionnaire (pre-workshop) to determine how competent the participants think they are in the topics to be taught. The Opinionnaire (post-workshop) is to be administered again at the end of the workshop to identify the level of competency growth. The instructor also should make specific observations during the workshop activities to measure attainment of the performance objectives. An additional instrument is designed to obtain data on the effectiveness of the workshop techniques.

The following questionnaires relate to this module. When more than one module is being taught, the instructor can develop a comprehensive pre-workshop and post-workshop competency opinionnaire that addresses all of the modules.

## ASSESSING PARTICIPANTS' MASTERY OF PERFORMANCE OBJECTIVES

The instructor's outline suggests activities that require written or verbal responses. The following list of performance indicators will assist you in assessing the quality of the participants' work.

**Module Title:** Exploring Careers

**Module:** VI

| Major Activities | Performance Indicators |
|---|---|
| Learning Experience I | |
| 1. Discussing how personal attributes relate to job satisfaction | 1. Were participants able to provide at least three examples of personal attributes that relate to the job? |
| 2. Completing interest/abilities chart | 1. Were participants able to complete the chart? |
| 3. Identifying work values | 1. Were participants able to identify at least three work values? |
| | 2. Were participants able to see conflicts in different work values? |
| 4. Completing a career chart | 1. Were participants able to complete the chart? |
| 5. Role playing | 1. Were participants able to suggest occupations for individuals based on the profiles? |
| 6. Identifying information in the *OOH* related to training | 1. Were participants able to identify at least three occupations that require—<br>a. no training,<br>b. some training, and<br>c. advanced training? |
| 7. Developing an infused lesson | 1. Were participants able to follow the infusion process? |
| | 2. Did activities relate to the concept? |

| Major Activities | Performance Indicators |
|---|---|
| Learning Experience II | |
| 1. Discussing characteristics of occupations | 1. Were participants able to provide the following for five occupations?<br>• nature of work<br>• job outlook<br>• working conditions<br>• training and other requirements<br>• earnings |
| 2. Developing an infused lesson | 1. Were participants able to follow the infusion process? |
| | 2. Did activities relate to the concept? |
| 3. Completing worksheet titled "Knowledge Quiz" | 1. Were participants able to answer at least 70 percent of the questions correctly? |

## COMPETENCY OPINIONNAIRE

**Directions:** For each statement that follows, assess your present competency. For each competency statement, circle one letter.

---

### YOUR COMPETENCE

Assess your present knowledge or skill in terms of this competency statement:

a. Exceptionally competent: My capabilities are developed sufficiently to teach this competency to other people.

b. Very competent: I possess most of the requirements but can't teach them to other people.

c. Minimally competent: I have few requirements for this competency.

d. Not competent: I cannot perform this competency.

| COMPETENCY STATEMENTS (PRE-WORKSHOP) | COMPETENCE (circle one) |
|---|---|
| 1. Explain how knowledge of personal attributes can improve occupational choice. | a b c d |
| 2. Describe an activity that infuses into their curricula information on understanding personal attributes as they relate to occupational choice. | a b c d |
| 3. Explain how knowledge of occupational characteristics can improve occupational choice. | a b c d |
| 4. Describe an activity that infuses into their curricula information on understanding occupational characteristics as they relate to occupational choice. | a b c d |

| COMPETENCY STATEMENTS (POST-WORKSHOP) | COMPETENCE (circle one) |
|---|---|
| 1. Explain how knowledge of personal attributes can improve occupational choice. | a b c d |
| 2. Describe an activity that infuses into their curricula information on understanding personal attributes as they relate to occupational choice. | a b c d |
| 3. Explain how knowledge of occupational characteristics can improve occupational choice. | a b c d |
| 4. Describe an activity that infuses into their curricula information on understanding occupational characteristics as they relate to occupational choice. | a b c d |

## WORKSHOP EFFECTIVENESS—MODULE VI

NAME (Optional)____________________ TITLE____________________

INSTITUTION________________________________________

ADDRESS____________________________ TELEPHONE____________

1. To what extent were the materials, processes, and organizational aspects of the module successfully used in the presentation and delivery of the module. For those materials, processes, or organizational aspects that you marked as "unsuccessful" or "slightly successful," provide brief comments as to how they might be improved.

| Success | | | | Materials/Processes | Comments |
|---|---|---|---|---|---|
| Unsuccessful | Slightly | Moderately | Very Successful | | |
| | | | | **Materials** | |
| 1 | 2 | 3 | 4 | Handouts/Worksheets<br>Transparencies | |
| | | | | **Processes** | |
| 1 | 2 | 3 | 4 | Lecture Presentations | |
| 1 | 2 | 3 | 4 | Large Group Discussions | |
| 1 | 2 | 3 | 4 | Small Group Sessions | |
| | | | | **Organizational Aspects** | |
| 1 | 2 | 3 | 4 | Module Organization in Terms of the Logical Flow of Ideas | |
| 1 | 2 | 3 | 4 | Important Concepts Reinforced | |
| 1 | 2 | 3 | 4 | The Mix of Activities Helpful in Maintaining Interest | |

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2. Indicate those aspects of the module that you liked most and those that you liked least.

| Liked Most | Comments |
|---|---|

| Liked Least | Comments |
|---|---|

3. SUGGESTIONS: Please provide suggestions or comments that you have for improving the workshop, workshop materials, and so on.

# RESOURCES

The materials listed below provide additional information on career exploration.

*Career Information Center*. Butterick Publishing Co., New York, New York.

This series of thirteen books focuses on describing major occupational areas (business communications, etc.).

*Career Opportunity Series*. CATALYST, New York, New York.

Each of the twenty-seven booklets covers a particular occupation, with a focus on the special needs of women. Geared toward professional careers. The series includes case histories and where to get more information about the particular career area. Part of the series also deals with the decision-making process as it relates to work and career selection.

*Careers Tomorrow*. Gene R. Hawes. Plume Books, New York, New York.

This book predicts jobs of tomorrow; lists top demand jobs in terms of skills needed, training, salary, working conditions, etc.

*Chronicle Occupational Briefs*. Chronicle Guidance Publications, Inc., Moravia, New York.

The briefs are job descriptions similar in format to those in *Occupational Outlook Handbook*. The series is updated regularly.

*Deciding*. H.B. Gelatt and Barbara Varenhorst. College Entrance Examination Board, Princeton, New Jersey, 1972.

The document is an early classic decision-making model for career counseling.

*Desk-Top Careers Kit*. Careers, Inc., Largo, Florida.

The series contains career briefs by D.O.T. classification. More than one person may use kit at a time; continuous revision provided.

*Dictionary of Occupational Titles*. Bureau of Labor Statistics, U.S. Department of Labor. Available from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. (order stock number 029-013-00079-9).

The D.O.T. is designed as a job placement tool to facilitate matching job requirements and worker skills. The D.O.T. includes standardized and comprehensive descriptions of job duties and related information for 20,000 occupations. It can be used to broaden students' occupational awareness and to help project new or emerging career areas. Training in the use of the D.O.T. is recommended for staff to optimize its effective use.

*Education Opportunities Series*. CATALYST, New York, New York.

This series includes eleven booklets describing different college majors (Business Administration, Law, Health Services, etc.). It is designed for women; but is useful also for men.

*Encyclopedia of Careers and Vocational Guidance*. William E. Hopke, Ed. Doubleday, 1978.

Two-volume set describes industries by job classifications and specific careers within area of work, with descriptions of requirements, methods of entry, and future job outlook.

*Finding a Job You Feel Good About*. Clifford B. Garrison. Argus Communications, Nile, Illinois.

The publication is brief and well illustrated; recommended for all age levels.

*Guerilla Tactics in the Job Market: A Practical Manual*. Tom Jackson. Bantam Books, Inc., New York, New York, 1978.

Practical, step-by-step way of approaching the job search.

*Guide for Occupational Exploration*. Employment and Training Administration, Superintendent of Documents, Washington, D.C. (order stock number 0-29-010-00080-2).

Designed for use with the *Dictionary of Occupational Titles*, the guide is organized by interest areas, further divided into work groups and subgroups. Helps individuals explore a variety of occupations within a specific area.

*The Harrington-O'Shea System for Career Decision-Making (System 5)*. Thomas F. Harrington and Arthur J. O'Shea. Chronicle Guidance Publications, Moravia, New York, 1978.

This self-scoring report allows one to match abilities, values, and interests with career areas.

*How to Decide: A Workbook for Women.* Nellie T. Scholz, Judith Prince, and Gordon Miller. Avon Books, New York, New York, 1975. (Also published by College Board under the title, *How to Decide: A Guide for Women.*)

The workbook helps women to assess their values, goals, and strengths, and to determine strategies.

*I Can Be Anything: Careers and Colleges for Young Women.* Joyce Stayton Mitchell. College Board Publication Orders, Princeton, New Jersey, 1978-revised.

Especially written for women exploring careers, this book provides information about education, salary, and future outlook for women in particular career areas.

*If You Don't Know Where You're Going, You'll Probably End Up Somewhere Else.* David Campbell. Argus Communications, Niles, Illinois, 1974.

A career and life-planning book for people who have little or no direction. It is thought provoking and enjoyable reading and good for all age levels.

*Job Power Now: The Young People's Guide to Job Finding.* Haldane, Haldane, and Martin. Acropolis Books Ltd., Washington, D.C., 1976.

*A Massachusetts Guide: Promising Practices in Career Education.* May M. Thayer and Elizabeth C.R. Chase, Eds. Massachusetts State Department of Education, Division of Occupational Education, Boston, Massachusetts, 1981.

This guide describes thirty-three promising practices in career education in Massachusetts, which represent a cross-section of geographical locations, student populations, and program components. It is designed for use by those individuals who are looking for suggestions on how to implement, revise, or augment career education programs in their schools. The programs described provide for curriculum infusion, staff development, community collaboration, career guidance, resource centers, and services to special populations. The guide is divided into four sections including an introduction.

*Matching Personal and Job Characteristics.* Gail Martin. U.S. Department of Labor, Bureau of Labor Statistics. Order from U.S. Government Printing Office, Washington, D.C. Occupational Outlook Quarterly, Winter 1982.

The pamphlet contains a chart matching jobs with characteristics needed to perform them; useful as beginning exploratory tool.

*Minnesota Vocational Interest Inventory.* Psychological Corporation, New York, New York.

The interest inventory for high school and adult groups provides scores on twenty-one occupational scales.

*Job Outlook for College Graduates*. Daniel E. Hecker. U.S. Department of Labor, Bureau of Labor Statistics, Washington, D.C. Occupational Outlook Quarterly, Summer 1982.

*"Occupational Outlook Quarterly."* Bureau of Labor Statistics, U.S. Department of Labor. U.S. Government Printing Office, Washington, D.C.

Published quarterly, this publication reviews developments affecting employment opportunities and findings of new occupational outlook research.

*The Quick Job-Hunting Map*. Richard N. Bolles and Victoria B. Zenoff. National Career Development Project, 1977. Order from Ten Speed Press, Berkeley, California.

Pamphlet; workbook approach to the job search; starts with identifying skills a person has and wants to sell; ends with information on the interview. Details other actual job search techniques.

*Resume Writing: Guide to Preparation*. New York State Department of Labor, Office of Education-Public Information, Albany, New York, 1978.

Resume outline and sample; how to use a cover letter, plus a section on self-appraisal; good section on approaching an interview situation.

*The Self-Directed Search*. John C. Holland. Consulting Psychologists Press, Inc., Palo Alto, California.

An interest inventory which is a good place to begin if client can't articulate career directions.

*Strong-Campbell Interest Inventory*. Edward K. Strong and David P. Campbell. Stanford University Press, Stanford, California.

The interest tests can be used as a starting point in career counseling.

*Sweaty Palms: The Neglected Art of Being Interviewed*. M. Anthony Medley. Lifetime Learning Publications, Belmont, California, 1978.

Focuses exclusively on the interview; good for all ages.

*The Three Boxes of Life and How to Get Out of Them*. Richard N. Bolles. Ten Speed Press, Berkeley, California, 1978.

The book presents a comprehensive approach to life/work planning. It provides philosophy, practical suggestions, and exercises to help people integrate the three boxes of life: school, work, and retirement.

*Vocational Biographies*. Vocational Biographies, Inc., Sauk Centre, Minnesota.

The biographies provide an understanding of an occupation from the perspective of an individual employed in the field. The pamphlets, which are updated annually, can serve as a good supplement to other more detailed information sources. They also provide references to other free pamphlets available on the particular occupation.

*What Color Is Your Parachute? A Practical Manual for Job Hunters and Career Changers*. Richard Bolles. Ten Speed Press, Berkeley, California, 1979-revised.

One reviewer calls it the "bible" and one of the best self-help guides in the field. Easy and fun reading, it includes how to clarify values, identify skills, and find a job. It outlines a non-traditional job-seeking approach proven effective. Contains an excellent bibliography to other sources of information. Also a Top Source in Career Information and Life Planning section.

*Where Do I Go From Here With My Life?* John C. Crystal and Richard N. Bolles. Ten Speed Press, Berkeley, California, 1978.

A combination training manual and classroom curriculum guide; for use by: (1) trainers of instructors or counselors in career and life planning, occupational decision-making, and the job-hunt; (2) instructors working with groups of any age; and (3) self-motivated individuals working on their own.

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